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Issued November 25, 1931
Staten Island, N. Y.
THE SCIENCE PRESS PRINTING COMPANY
Lancaster, Pa.

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PROCEEDINGS
OF THE
STATEN ISLAND INSTITUTE
OF
ARTS AND SCIENCES

VOLUME VI

OCTOBER 1930—MAY 1931

EDITED BY THE PUBLICATION COMMITTEE
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PUBLISHED BY THE
STATEN ISLAND INSTITUTE OF ARTS AND SCIENCES
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PROCEEDINGS

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VOL. 6

OCT. 1930-MAY 1931

PART I

Records of Triassic fossils on Staten Island, New York, with descriptions of specimens

ARTHUR HOLLICK

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Introduction

Outcrops of Triassic rocks in New York State occur only in Rockland County and on Staten Island (Richmond County). On Staten Island they are limited in extent, being represented only by the trap or diabase ridge about five miles in length and a quarter to a half mile in surficial width, that extends from Port Richmond to Long Neck, and three scattered exposures of sandstone and shale, at Mariner's Harbor, Willow Brook, and Bogardus' Corners, respectively.

As far as I am aware any fossils of Triassic age have not been found in, or at least not recorded from Rockland County, hence records from Staten Island are not only of local interest but are also of value in connection with the meager knowledge available relating to the Triassic system in the State. And, incidentally, it may here be of interest to note that only about 140 species of Triassic plants have been recorded from the entire United States.

The earliest local reference to Triassic plant remains is by Mather¹ in his description and discussion of the "Upper Secondary System. Red-sandstone Division" (*op. cit.*, pp. 285-294), where he remarks: "This division of rocks occurs . . . in Rockland and Richmond counties. . . . In Richmond county (Staten Island) the red sandstone occupies but a small area where it can be observed; but from the observations made by Professor H. D. Rodgers and myself, it is believed to range from between Bergen point and Shooter's island, south-southwestwardly, to the Fresh-kill marshes. . . . It may be seen at very low tide, on the shore, about southwest of Bergen point. It is the slaty, micaceous, fissile, red sandstone and shale. . . . No fossil remains have been observed in the red sandstone of Rockland and Richmond counties, except some obscure fucoids, during the examinations I have made of these rocks. . . . [footnote] I have seen no tracks on the red sandstone of Rockland and Richmond counties, but they may very possibly be found there."

No further mention of the Staten Island Triassic area described by Mather appears to have been made until almost forty years subsequently, when Britton² read a paper before the New York Academy of Sciences, on the geology of Richmond County, in which, in discussing the Triassic shales and sandstones, he remarked (*loc. cit.*, p. 168): "These rocks are exposed at but two places to my knowledge, and there in but very small quantities. These are on Shooter's Island, at the mouth of Newark Bay, and on the adjacent shore [at Mariner's Harbor], and were recorded by Mather. Here the strata consist of shaly red micaceous sandstone, differing in no essential particular from that so abundant

¹ Mather, W. W. Geology of New York, part 1, Geology of the first geological district. Nat. Hist. N. Y., pt. 4 (Geology). 1843.

² Britton, N. L. The geology of Richmond County, N. Y. New York Acad. Sci., Annals vol. 2, No. 6, pp. 161-182, pls. 15, 16. 1882.

exposed in Eastern New Jersey. No fossils have hitherto been found in these rocks on Staten Island, and the surfaces exposed are not sufficient to warrant any great expenditure of time or labor in search for them."

In 1889 an account of a visit to the Mariner's Harbor locality by Britton and Hollick³ was published, in which (*loc. cit.*, p. 10) it is recorded that "The beach . . . was carefully examined and . . . the existence of the outcrop was clearly demonstrated. Fully three fourths of the shingle is composed of red sandstone and shale, and at a point immediately to the west of the foot of South Avenue there is a portion of the beach composed entirely of red clay and decomposed red shale, which is undoubtedly the outcrop described by Mather, although very much broken up by the action of the waves and weather. At this locality a large flat piece of red sandstone was found, containing well defined impressions of some vegetable remains, probably algae [S.I.I.A.S., G581 and G634]."⁴ Commercial developments in recent years have so masked the natural features of the locality that the outcrop is no longer visible; but road cuttings and well borings in the immediate vicinity have demonstrated the presence of the shale and sandstone close to the surface.⁵

Discovery of an outcrop of Triassic red shaly sandstone near Bogardus' Corners was recorded by me⁶ in 1905, and one of metamorphosed shale and sandstone, near Willow Brook, in 1915.⁷ No organic remains of any kind were noted in connection with the outcrop at the former locality, but at the latter it is recorded that (*loc. cit.*, p. 139) "in some of the shale layers may be seen

³ Britton, N. L., and Arthur Hollick. Nat. Sci. Assoc. Staten Isl., Proc. vol. 2, pp. 9-10. Ap. 11, 1889.

⁴ These notations—"S.I.I.A.S., G581 and G634," and others that follow—represent the catalog numbers of specimens in the Museum of the Staten Island Institute of Arts and Sciences.

⁵ Nat. Sci. Assoc. Staten Isl., Proc. vol. 2, p. 10. Ap. 11, 1889; *idem*, p. 17. Oct. 10, 1889; *idem*, vol. 6, p. 34. June 12, 1897. (S.I.I.A.S., G166, G3527, G3313.)

⁶ Hollick, Arthur. A newly discovered outcrop of Triassic rock on Staten Island. Staten Isl. Assoc. Arts and Sci., Proc. vol. 1, p. 16. Ap. 10, 1906. (S.I.I.A.S., G641.)

⁷ Hollick, Dr. [Arthur]. A newly discovered exposure of Triassic rock. Staten Isl. Assoc. Arts and Sci., Proc. vol. 5, pp. 138-139. Ap. 10, 1916. (S.I.I.A.S., G3502, G3505, G3506.)

more or less fragmentary plant remains, consisting of flattened stems and seedlike bodies. In places these are quite abundantly distributed, but they are not sufficiently well defined for identification."

From the records above cited it may be appreciated that our knowledge of the Triassic flora of Staten Island obtained from the few specimens found in connection with the rock outcrops is so meager as to be of little value; but in connection with the morainal material on the island Triassic débris represents the most abundant constituent, and although no special search has been made for specimens containing plant remains, a number have been collected. It is doubtful, perhaps, if any of these were derived from Staten Island outcrops. All of them probably came from eroded Triassic areas in New Jersey. Nevertheless our knowledge of the Triassic flora of the region is so scanty that any identifiable specimens may be regarded as of interest and of value stratigraphically.

Descriptions of specimens

PLANTS

THALLOPHYTA

Algae

Genus CHONDRITES Sternberg

Chondrites (sp.?)

Plate I, Figure I

This specimen consists of fragmentary remains of filamentous and narrow, ramifying, ligulate rootlets or branchlets. They are apparently, referable to one or another of the twenty or more specific and varietal forms included in the fossil algal genus *Chondrites*; and the logical procedure would be to try and identify our specimen with some one of the early Mesozoic forms most closely resembling it. Any one of several might be suggested as indicative, but I would not venture to connect it, definitely, with any specific name. It may, however, be compared with the general type of forms such as is represented by *Chondrites interruptus* Emmons,⁸ from the Triassic of North Carolina; and *C. filicinum*

⁸ Emmons, Ebenezer. American geology, pt. 6, p. 24, fig. 5. Albany 1857.

Saporta, *C. fragilis* Saporta, *C. globulifer* Saporta, *C. moniliformis* Saporta, etc., from the Jurassic of France.⁹

Matrix: red shale.

Terminal moraine, Prince's Bay bluff (S.I.I.A.S., G1009).

Chondrites (sp.?)

Plate 1, Figure 2

This specimen, which consists of disintegrated fragmentary remains, is, perhaps, specifically identical with the specimen last described; and comparisons may be made with the species cited in the preceding footnote.

Another specimen (S.I.I.A.S., G3502) from the same locality as the one represented by Figure 2 may also be included in the same species.

Outcrop of metamorphosed gray shale, near Willow Brook (S.I.I.A.S., G3506).

PTERIDOPHYTA

Filicales?

Gellera paradoxa Hollick, n. gen. et sp.

Plate 2, Figures 1, 2, 3

Plant consisting of a cluster of roots attached to an expanded base which apparently extends upward in the form of a short stem or stalk from the summit of which arise two divergent branches.

Roots filamentous, terminating distally in tassels of fine rootlets; base of stem apparently corm-like, about 1.5 centimeter in maximum width; stem (including the expanded base) about 5 centimeters in length, apparently cylindrical, expanded proximad and distad, about .6 centimeter in minimum diameter, the exterior smooth, the interior surface finely striated longitudinally; branches smooth exteriorly, finely striated longitudinally on the interior surface, apparently terete, sparingly torose, flexuous, diverging from each other at an angle of approximately 40°. 5-8 or more centimeters in length, about .2 centimeter in diameter, except proximad where they are developed into clavate conical ex-

⁹ Saporta, le Compte de. Paléontologie Française, ser. 2, Plantes Jurassiques, vol. 1 (Atlas), pl. 17, fig. 4; pl. 18, figs. 1, 2; pl. 20; pl. 21; pl. 24, figs. 1-4. 1873.

pansions with a maximum diameter of about .6 centimeter, and at the distal extremity which is slightly expanded, sac-like, blunt and rounded.

The preceding description is based upon the obvious superficial features of the specimen as they appear to the unaided eye. Certain of these apparent features, however, may not represent actual characters of the plant in its original condition. The apparently corm-like character of the base of the stem may, for example, merely represent a closely compacted mass of the proximal ends of the roots. The specimen, in fact, in its entirety, is suggestive of a plant that represents a nucleus of a concretion of finely divided ferruginous sandy clay which has completely and uniformly encased it in a shell-like envelope, thus giving to the exterior a deceptive appearance of smoothness. The apparent sheath, that is such a conspicuous feature of the stem, probably represents merely a part of the concretionary envelope; and the envelope so masks the stem and branches that their original shape—terete or compressed—can not be satisfactorily determined.

The fine longitudinal striations on the stem and branches, though obviously represent an original character of the plant were, of course, external, and what we now see are impressions of the external markings on the interior surface of the concretionary envelope. Figure 2, Plate 2, is an enlarged representation of the adjacent proximal part of the right-hand branch, showing the exteriorly smooth outer envelope (concretionary shell?), on the interior surface of which are the clearly defined longitudinal striations of the cortex of the enclosed branch. And it may here be noted that similar features are in evidence wherever the interior of stem or branches is revealed.

The summit of the stem, where the branches arise, is ruptured and appears as if jointed; but the rupture is coincident with a conspicuous inequality in the matrix, which probably accounts for it and for the apparent joint. It may, however, be questioned whether the apparently sheathed lower part of the plant is actually a single stem dichotomously branched at its summit, or whether it represents closely compacted proximal portions of several branches. The discernible characters appear to indicate that it is a single stem.

The left-hand branch is ruptured, at a distance of about 2.75 centimeters from the distal extremity; but the features in connection with this rupture I have not been able to analyze or to interpret satisfactorily. A slight swelling of the branch at this place is apparent, and immediately below it are some small thread- or bristle-like processes that extend outward from the branch and curve upward, simulating dismembered fragments of some kind of a foliaceous organ, or lacerated tissue of the branch. I would not venture to suggest, however, that they may actually represent any part of the plant.

The distal extremity of the right-hand branch is evidently broken off, but in connection with the left-hand one it is intact and is suggestive of a terminal fruiting body, which is emphasized by the apparently punctate interior that is exposed where the outer shell is broken away. An enlarged representation of this part of the branch is shown in Figure 3 on Plate 2.

The probable taxonomic status of the plant is not definitely determined, although its affiliations, as far as phylum and class are concerned, at least appear to be indicated.

In 1857 Emmons¹⁰ described and figured a plant, or part of a plant, from the Triassic of North Carolina, which, except that it has four branches arising from the summit of the stem, is suggestive of our specimen in general appearance. A tracing of his figure is represented by our Figure 1, Plate 3. Emmons described it as "a branching and obscurely striate frond" and remarked that it "resembles *Baiera gracilis*,"¹¹ but classified it under the heading "Plants whose natural orders are undetermined."

Emmons' figure (reversed) was reproduced by Fontaine,¹² who remarked (*op. cit.*, p. 120): "This is clearly a *Baiera*, much smaller than the *Baiera multifida* . . . much like *Baiera Mün-*

¹⁰ Emmons, Ebeneza. American Geology, pt. 6, p. 133, fig. 102. 1857.

¹¹ Bunbury, C. J. F. On some fossil plants from the Jurassic strata of the Yorkshire coast. Geol. Soc. London, Quart. Journ. vol. 7, pt. 1, pp. 179-194, pls. 12, 13. 1851. "*Baiera? gracilis* nov. sp.," l. c., p. 182, pl. 12, fig. 3.

¹² Fontaine, W. M. Contributions to the knowledge of the older Mesozoic flora of Virginia. U. S. Geol. Survey, Mon. vol. 6, pl. 51, fig. 8. 1883.

steriana, Sap., or *Jeanpaulia Münsteriana*, Ung. . . . and is no doubt the same plant . . . *Jeanpaulia* is now considered by Saporta and Heer to be a *Baiera*." Those who may be interested in early opinions that were expressed in regard to the type plant represented by *Jeanpaulia Münsteriana* (Presl) Schenk (= *Spaerococcites Münsterianus* Presl in Sternberg) may consult with advantage the work by Schenk,¹³ on the Upper Triassic and Lower Jurassic of France, where the species is described, discussed and figured *in extenso* (*op. cit.*, pp. 39-44, pl. 9, figs. 1-13). In the discussion (*op. cit.*, pp. 41, 42) he says: "Der Habitus der *Jeanpaulia*-Blätter ist bei Farnen nicht häufig; kommt aber bei *Schizaea dichotoma* Sw. und *Acrostichum potatum* Sw. vor. . . . *Jeanpaulia* wird deshalb am besten in dieser Stelle bei Farnen neben *Baiera* und *Hausmannia* finden. . . . Ausser den genannten Arten von *Schizaea* und *Acrostichum* kenne ich unter den lebenden Farnen keine Analoga."

In 1900 a work was issued under the joint authorship of Ward, Fontaine and others,¹⁴ in which Fontaine described and figured a plant from the Jurassic of Oroville, California (*op. cit.*, p. 36, pl. 65, fig. 1), referring it to *Baiera multifida* Fontaine?, and classing it under the Ginkgoales. Fontaine's figure is reproduced in our Figure 2, Plate 3. The superficial resemblance between this figure and the figure of our specimen is, perhaps, more suggestive than in connection with the figure previously discussed.

Figure 3, Plate 3, is a reproduction of a figure of *Baiera cretosa* (Heer) Schenk (= *Sclerophyllina cretosa* Heer) *fide* Saporta,¹⁵ from the lower middle Cretaceous of Portugal, which is classed as a conifer. His description is: "Foliis coriaceis, dictyotome partitis, segmentis linearibus, integris, tenuiter striatis nervulis, e basi divergentibus." Comparison with the figure of our specimen, and with the other figures cited, shows equally suggestive similarity in characters, except that in Saporta's specimen

¹³ Schenk, August. Die fossile Flora der Grenzschiefer von Keupers und Lias Frankens. Wiesbaden, 1867.

¹⁴ Ward, L. F., in Ward, Fontaine, and others. Status of the Mesozoic floras of the United States. First paper: The older Mesozoic. U. S. Geol. Survey, 20th Ann. Rept., 1898-99, pt. 2, pp. 211-748, pls. 179. 1900.

¹⁵ Saporta, Marquis de. Flore fossile du Portugal, pl. 28, fig. 1. Lisbonne, 1894.

the number of branches is indicated and described as five, which might appear to preclude the character of dichotomy. The number of branches, however, is not included by Saporta as one of the specific characters and is merely incidentally mentioned in his discussion (*op. cit.*, p. 175): "L'empreinte . . . laisse voir cinq segments lieaires, marqués de fine stries longitudinales, partant d'une base commune pour se prolonger en divergeant."

One character is not included in the original description or discussion of either of the three species above mentioned, although it is indicated, to a greater or less extent, in each of the figures. This character or feature is the enlargement, proximad, of the branches. In our specimen of *Gellera paradoxa* it is more pronounced than in any illustration of any similar plant heretofore figured, except perhaps in connection with *Baiera multifida* Fontaine (see our Figure 2, Plate 3).

Saporta (*op. cit.*, p. 171, pl. 28, figs. 7-9, 12) also described and figured a species, that appears to belong in the same general category with the plants previously discussed, under the name *Pteridoleimma phycomorpha*, in his discussion of which he remarked: ". . . plusieurs lambeaux de segments . . . et dont l'un (fig. 12, pl. 28) . . . laisse voir à l'extrémité supérieure des branches de la dichotomie une gonflée en forme de receptacle, comme si eile eût servi de support à des organes reproducteurs. Nous ne saurions nous prononcer à l'égard de la vraie nature de ces sortes d'empreintes." Saporta's figure above mentioned is reproduced and is represented by our Figure 4, Plate 3; and a comparison of this figure with the enlarged representation of the distal extremity of the left-hand branch of *Gellera paradoxa*, shown in our Figure 3, Plate 2, appears to indicate a possible relationship between them, probably of family or order.

Another similar type of plant remains, from the Lower Cretaceous of Maryland, was described by Fontaine¹⁶ under the genus *Baicropsis* (*op. cit.*, pt. 1, p. 205), in discussing which he suggested possible relationship with *Baiera*, *Jeanpaulia*, and *Ginkgo-phyllum*. One of the species described (*B. expansa*, p. 207)¹⁷ is

¹⁶ Fontaine, W. M. The Potomac or younger Mesozoic flora. U. S. Geol. Survey, Mon., vol. 15, pt. 1 (text), pt. 2 (plates). 1889.

¹⁷ Apparently identical with *Baiera digitata* (Bronfniart) Heer, from the Triassic of Thuringia, *vide* Potonié, H. Die Flora des Rothliegenden von Thüringen. K. preuss. geol. Landesanst., Abh., n. s., No. 9, pt. 2, pl. 32, fig. 2. 1893.

represented by a number of illustrations, one of which (*op. cit.*, pl. 90, fig. 1) is reproduced in our Figure 5, Plate 3, in order to show the dichotomous branching and the swelling or expansion below each locus of branching—features that are characteristic of *Gellera* and of the several species in other genera discussed in connection with it.

Under the name *Baieropsis macrophylla* Fontaine (*op. cit.*, pt. 1, p. 212; pt. 2, pl. 90, fig. 6) described and figured a specimen, which figure is reproduced, in part, in our Figure 6, Plate 3, in order to show what Fontaine described as “peculiar elliptical protuberances” at the distal extremities of the branches, in regard to which he further remarked: “The exact nature of these could not be made out, but they seem to be rather a fungoid growth than fructification.” Subsequently Berry¹⁸ definitely identified them as sporangia and grouped Fontaine’s genus *Baieropsis* with certain species of *Acrostichopteris* Fontaine (*op. cit.*, pt. 1, p. 106), under the new generic name *Schizaeopsis* and relegated them to the Filicales and to the family Schizaeaceae. On Berry’s plate 12 is a figure of *Schizaeopsis expansa* (Fontaine) Berry (= *Baieropsis expansa* Fontaine), a part of which is reproduced in our Figure 7, Plate 3, for purposes of comparison.

It is evident that the numerous plant remains included by various authors, from time to time, under the genera *Sclerophyllina*, *Czekanowskia*, *Baiera*, *Baieropsis*, *Ginkgophyllum*, *Jean-pauli*, etc., are in need of careful study, from the morphologic as well as from the taxonomic point of view, and that their generic and family relationships require revision. In the meantime the genus *Gellera* may be tentatively regarded as one of the oldest representatives of the taxonomic group to which all or certain of them apparently belong.

The generic name is given, in honor of Mr. Carl Geller, by whom the specimen was collected, in September, 1927.

Matrix: red shale.

Terminal moraine, Arrochar (S.I.I.A.S., G3986).

¹⁸ Berry, E. W. A lower Cretaceous species of Schizaeaceae from eastern North America. *Annals Bot.* vol. 25, No. 97, pp. 193-198, pl. 12 and one text fig. Jan. 1911.

Equisetales

Genus EQUISETUM Linné

Equisetum Rogersii (Bunbury) Schimper?

Plate 4

Equisetum Rogersii (Bunbury) Schimper, *Traité de paléontologie végétale*, vol. 1, p. 276. Paris. 1869.

Calamites Rogersii Bunbury, *Geol. Soc. [London], Quart. Journ., Proc.* 1851, p. 190.

More or less fragmentary remains that have been referred to this species have been found in the Old World, and in America in New Brunswick, Pennsylvania, New Jersey, Virginia, and North Carolina; but the diversity of form and characters included in these remains leads to the inference that they may not all be referable to one and the same species. On the other hand, however, it may be remarked that certain of the Triassic eastern North American so-called species that have been included in or referred to the genus at one time or another (*Equisetum columnaroides* Emmons, *E. arundiniforme* Rogers, *Calamites arenaceus* Emmons, *C. disjunctus* Emmons, *Phytolithus striaticulmis* Martin, and, possibly, *Equisetum Meriani* Brongniart) may be referable to *Equisetum Rogersii*, in one or another of its forms.

The specific identity of our specimen is questioned for the reason that the original drawing from which our plate was made was transmitted to the late Prof. W. M. Fontaine of the University of Virginia—an authority on Triassic plants—who examined it and reported that “the specimen may very well be *Equisetum Rogersii*, but it is impossible to speak with positiveness of an internodal cast such as this appears to be.”

A brief note in regard to the discovery of the specimen was printed in the *Proceedings of the Natural Science Association of Staten Island*, vol. 3, p. 50, September 9, 1893. It is the only specimen of the species and the only representative of the genus thus far recorded from New York.

The specimen was found by Miss Grace E. Hollick (now Mrs. R. H. Pentz), April 23, 1893.

Matrix: fine grained, reddish-brown, shaly sandstone.

Terminal moraine, Arrochar (S.I.I.A.S., G1008).

Stem of an Equisetum?

Plate 5, Figure 1

This specimen may be described as a fragment of a stem or culm, coarsely striated or ridged longitudinally and jointed or fractured horizontally. The latter feature may represent either nodal jointing or fracturing due to fossilization. The general surficial appearance of the specimen is suggestive of *Equisetum* or, possibly, of a monocotyledonous plant of some kind. It is questionable, however, whether or not the Triassic flora included any representatives of the Monocotyledonae; but species representing the Equisetales were abundantly represented.

Comparison may be made with *Equisetum virginicum* Fontaine¹⁹ and *E. Lyelli* Mantell *vide* Fontaine (*op. cit.*, p. 65, pl. 2, figs. 4, 5, 8, 8a), from the Lower Cretaceous of Virginia; but it would not be justifiable to suggest any closer relationship between our specimen and those figured by Fontaine than that they may be all regarded as referable to the Equisetales.

Matrix: reddish-brown, fine grained shaly sandstone.

Moraine, New Brighton (S.I.I.A.S., G3904).

SPERMATOPHYTA

Coniferales

Branch of a conifer (gen. et sp.?)

Plate 5, Figure 2

This specimen almost certainly represents a fragment of a coniferous branch, partly decorticated, with leaf scars plainly discernible above the decorticated part.

Comparisons might be made with several published figures of similar Mesozoic coniferous remains, described under the genera *Voltzia*, *Walchia*, *Palissya*,²⁰ etc.; but the one figure cited, repre-

¹⁹ Fontaine, W. M. The Potomac or younger Mesozoic flora. U. S. Geol. Survey, Mon., vol. 15, pt. 1 (text), p. 63, pt. 2 (plates), pl. 1, figs. 1, 1a, b, c, 2-6, 8; pl. 2, figs. 1-3a, 6, 7, 9. 1889.

²⁰ *Palissya sphenolepis* (Fried. Braun) Brongniart, *vide* Ward, L. F., in Ward, Fontaine, and others. Status of the Mesozoic floras of the United States. First paper: The older Mesozoic. U. S. Geol. Survey, 20th Ann. Rept., 1898-99, pt. 2, p. 249, pl. 32, fig. 3. 1900.

presenting a specimen from the Triassic of Pennsylvania, may serve as an example of the remains mentioned, and I would not feel justified in assuming to identify our fragmentary and obscurely defined specimen with any particular species or genus.

Matrix: fine grained, light gray arkose.

Terminal moraine, Richmond (S.I.I.A.S., G1019).

Branch-bud of a gymnosperm?

Plate 6, Figures 1, 2

This specimen has not been satisfactorily identified, either taxonomically or morphologically. Relationship with the Gymnospermae, however, appears to be indicated by such surficial characters as are discernible; and its general appearance is that of an elongated mass or pavement of small, crowded, polygonal parts, each part with a raised, corrugated rim or border and a depressed, wrinkled, punctate interior area.

These parts may represent either cone scales, leaf scars or cushions, or scale-like foliar organs; and the specimen might be regarded as representing either a branch-bud or the remains of a partially disintegrated cone or strobile; and in this connection a more or less suggestive comparison may be made with *Brachyphyllum insigne*²¹ Heer,²¹ from the Jurassic of Siberia. This figure (*loc. cit.*) represents a specimen that includes a fragment of a coniferous twig or branch, terminated by two, short, orbicular or oblong cones with scales closely similar in appearance to the pavement-like markings or parts of our specimen; and it may be seen that, as depicted by Heer, the cone scales and the scale-like leaves merge into each other so that any obvious line of demarcation between them is difficult to determine. It may also be seen that, at the upper end of our specimen, there is an obscure indication of globose enlargement that gives to it, as a whole, the general aspect of a branch-bud similar to the specimen depicted by Heer. It may also be compared with *Lycostrobus Scotti* (Nathorst) Nathorst,²² from the Triassic of the Old

²¹ Heer, Oswald. Beiträge zur Jura-Flora Ostsibiriens und des Amurlandes. Flora fossilis arctica vol. 4, No. 2, p. 75, pl. 13, fig. 9. Zurich, 1877.

²² Nathorst, A. G. *Lycostrobus Scotti*, eine grosse Sporophyllähre aus den rätischen Ablagerungen Schonens. Paläobot. Mitth. 3, K. Svensk. Vetensk.-akad., Handl. vol. 43, No. 3, pl. 1, fig. 1. 1908.

World, referred to the Lycopodiales, but originally described as a male cycad organ of fructification, under the generic name *Androstrobus*. Other comparisons might be suggested, but they would be of little value in view of the poorly defined features available for the purpose in our specimen.

Our two figures represent one and the same specimen. Figure 1 is natural size. Figure 2 is the upper part, $\times$ by about 2.75. Matrix: fine grained, light gray arkose.

Terminal moraine, Eltingville (S.I.I.A.S., G1021).

Coniferous remains of uncertain generic relationship

Plate 7, Figures 1, 2, 2a, 2b

"... poorly preserved specimens of *Loperia simplex* Newb. and a conifer, apparently *Cheirolepis Munsteri* (Schenk) Schimp.," *fide* Hollick, Arthur. Nat. Sci. Assoc. Staten Isl., Proc. vol. 7, p. 31. Jan. 13, 1900.

At the time when the piece of matrix represented by Plate 7 was first examined, as above cited, I was inclined to regard the obscurely defined remains indicated by Figure 1 as, perhaps, a twig or branch of *Cheirolepis Münsteri* (Schenk) Schimper;²³ but it does not appear to warrant, definitely, even the generic identification. It might equally well be compared with *Pachyphyllum brevifolium* Newberry,²⁴ from the Triassic of Connecticut and Massachusetts, especially as, closely associated with our Figure 1, are faintly defined impressions, represented by our Figure 2b, that are suggestive of the cone of *Pachyphyllum brevifolium* depicted by Newberry (*op. cit.*, fig. 3c).

The generic names *Cheirolepis*, *Brachyphyllum*, *Pachyphyllum*, *Pagiophyllum*, *Sphenolepis*, *Palissya*, etc., have, however, been so

²³ Schimper, W. P. *Traité de paléontologie végétale*, vol. 2, p. 248. Paris, 1870-72. (= *Brachyphyllum Münsteri* Schenk, August. Die fossile Flora der Grenzschichten des Keupers und Lias Frankens, text, p. 187, atlas, pl. 43, figs. 1-12a, b. Wiesbaden, 1867.)

²⁴ Newberry, J. S. Fossil fishes and fossil plants of the Triassic rocks of New Jersey and the Connecticut valley. U. S. Geol. Survey, Mon. vol. 14, p. 89, pl. 22, figs. 3-3c. 1888. (= *Pagiophyllum brevifolium* (Newberry) Ward, L. F., in Ward, Fontaine and others. Status of the Mesozoic floras of the United States, first paper, the older Mesozoic. U. S. Geol. Survey, 20th Ann. Rept., 1898-99, p. 427. 1899.)

loosely applied to Mesozoic coniferous remains of mutually similar superficial appearance, and the nomenclature has, in consequence, become so involved that, even in connection with comparatively well defined remains, identification with any of the generic names might be of questionable value.

The remains represented by Figure 2 and Figure 2a may or may not belong to one and the same individual or species. Figure 2 was originally identified by me (Nat. Sci. Assoc. Staten Isl., Proc. vol. 7, p. 31. Jan. 13, 1900) as *Loperia simplex* Newberry,²⁵ from the Triassic of Durham, Conn., as depicted in Newberry's figure 1 (*op. cit.*). A comparison between our figure and Newberry's shows a surficial similarity, as may be seen by comparing the two figures; and in order to facilitate comparison a reproduction of Newberry's figure is represented by our Figure 2a, Plate 8. Whether they may be recognized as mutually identical or not may, however, be regarded as a matter of personal opinion.

Newberry regarded his specimen as "most probably monocotyledonous, perhaps aquatic—a kind of gigantic *Schollera*." He compared it with a somewhat similar specimen from the Triassic of North Carolina, described and figured by Emmons,²⁶ which is reproduced in our Figure 2, Plate 8. Emmons described it under "plants whose natural orders are undetermined," and described it as "a simple strap-like leaf, which is finely striate . . . the specimen . . . is about fourteen inches long." Whether or not there is any generic or family relationship between these specimens may be regarded as an open question. Incidentally it may also be of interest to note that Knowlton²⁷ classed *Loperia* under "Algae of uncertain position"!

As far as our Figure 2 is concerned I am inclined to regard it as, possibly, representing a fractured, decorticated branch of a

²⁵ Newberry, J. S. The fauna and flora of the Trias of New Jersey and the Connecticut valley. New York Acad. Sci., Trans. vol. 6, p. 126. 1886-87 [1888]. Fossil fishes and fossil plants of the Triassic rocks of New Jersey and the Connecticut valley. U. S. Geol. Survey, Mon. vol. 14, p. 93, pl. 25, figs. 1-3. 1888.

²⁶ Emmons, Ebenezer. American geology, pt. 6, p. 132, fig. 100. Albany, 1857.

²⁷ Knowlton, F. H. A catalogue of the Mesozoic and Cenozoic plants of North America. U. S. Geol. Survey, Bull. 696, p. 664. 1919.

coniferous tree, and Figure 2a as fragmentary remains of the bark or cortex, which are suggestive of the remains depicted on our Plate 6 (= S.I.I.A.S., G1021), and our Figure 2, Plate 5 (= S.I.I.A.S., G1019). All of the remains, however, are so obscurely defined that they offer little more than indications or suggestions as to their probable relationships.

Matrix: thinly bedded, greenish-gray shale.

Terminal moraine, beach at Woods of Arden (S.I.I.A.S., G1034).

ANIMALS

Footprints of amphibians

Plate 9, Figure 1

This interesting specimen was, originally, not recognized for what it apparently represents. The markings were thought to be those of some kind of a plant. Comparison, however, with the numerous published figures of footprints of Triassic reptiles and amphibians indicates, apparently beyond question, that our specimen belongs with this class of fossil remains.

For purposes of comparison I have introduced (Figure 2, Plate 9) reproductions of certain of such footprints, from the Triassic of the Connecticut River valley, depicted by Emmons.²⁸ Other similar footprints, from the Triassic of Virginia, were described and figured by Shaler and Woodworth,²⁹ together with a footprint of a forefoot of a living toad, for comparison (*loc. cit.*, fig. 90a). It may be noted that individual fossil footprints vary in the number of digits, some having three, others four, or five; but, where the imprint is imperfect, the actual number of the animal's digits may not be recorded.

Matrix: red shale, with a remarkably smooth surface.

Terminal moraine, Tottenville (S.I.I.A.S., G1013).

²⁸ Emmons, Ebenezer. American geology, pt. 6, pl. 7, and text figs. 110, 111, p. 141. Albany, 1857.

²⁹ Shaler, N. S., and J. B. Woodworth. Geology of the Richmond Basin, Virginia. U. S. Geol. Survey, 19th Ann. Rept. 1897-98, pt. 2, text fig. 90, p. 434. 1899.

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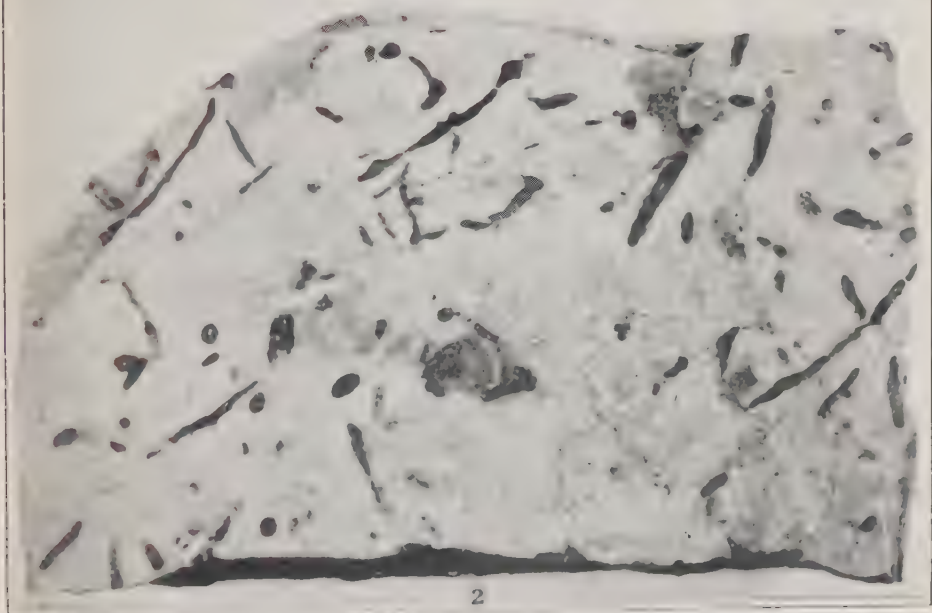
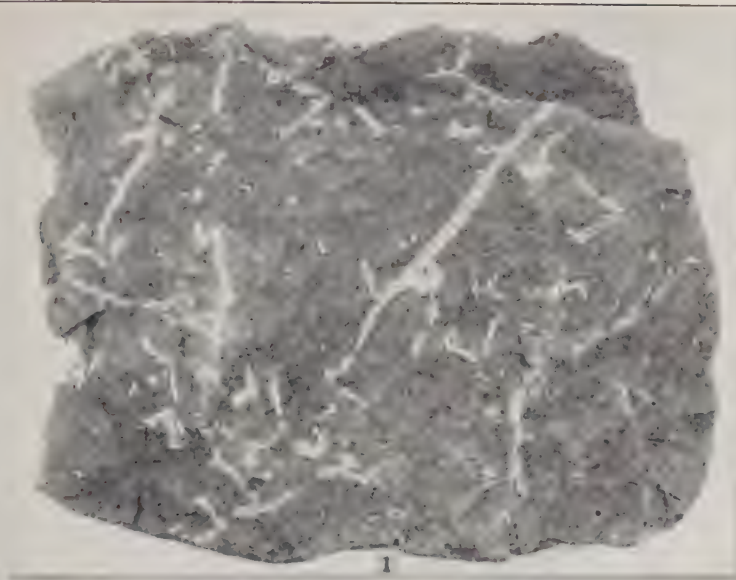
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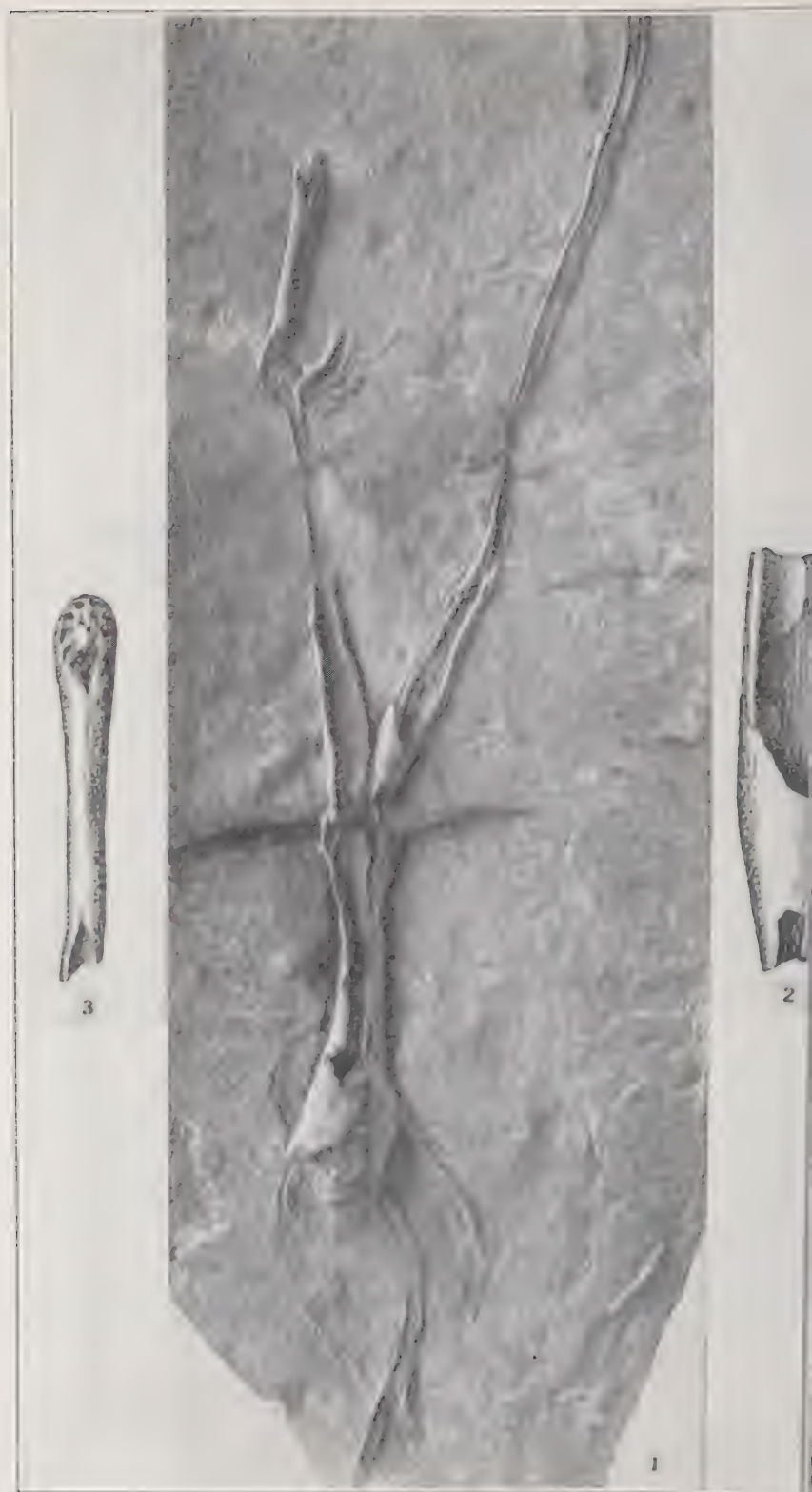
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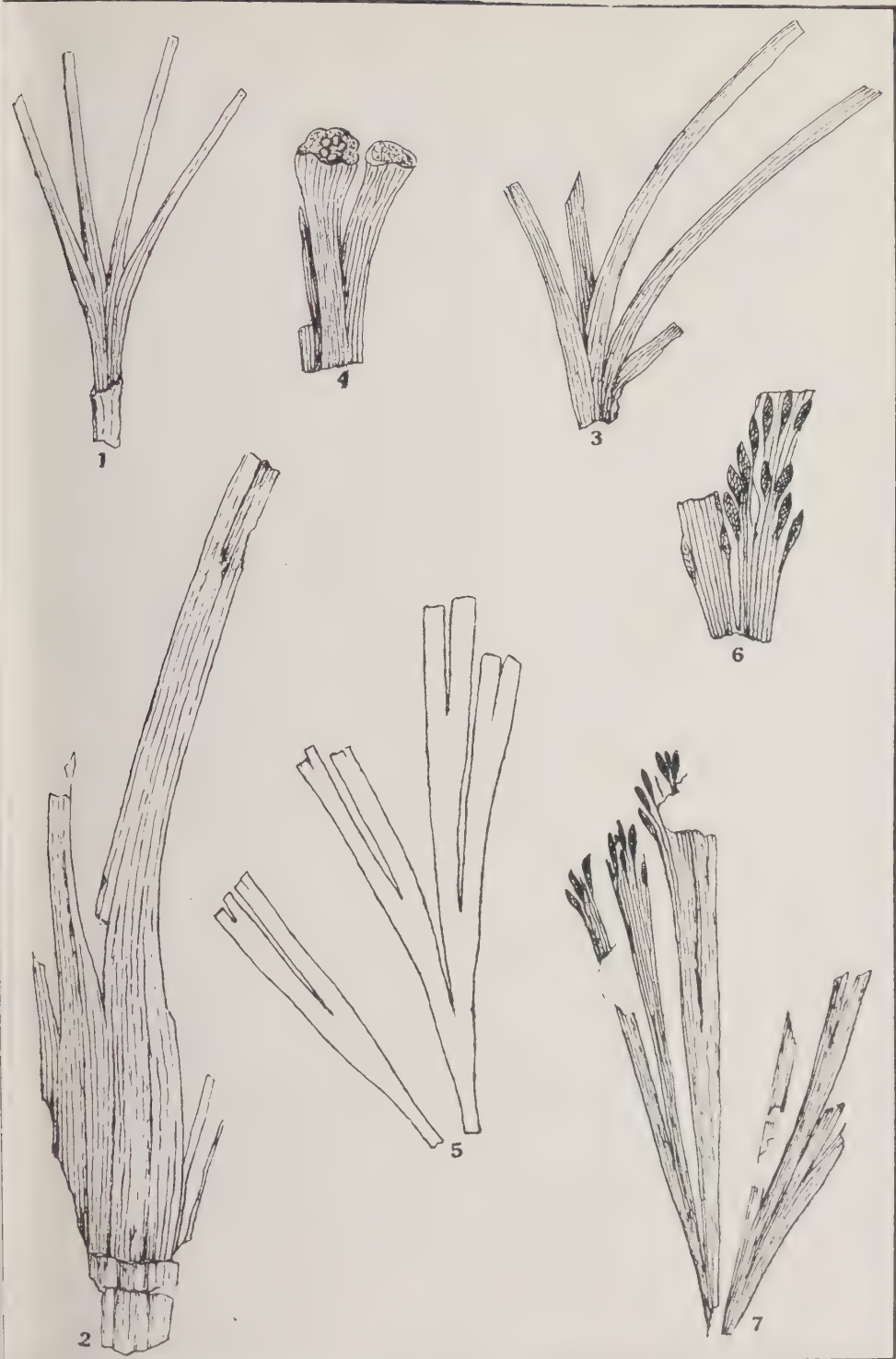
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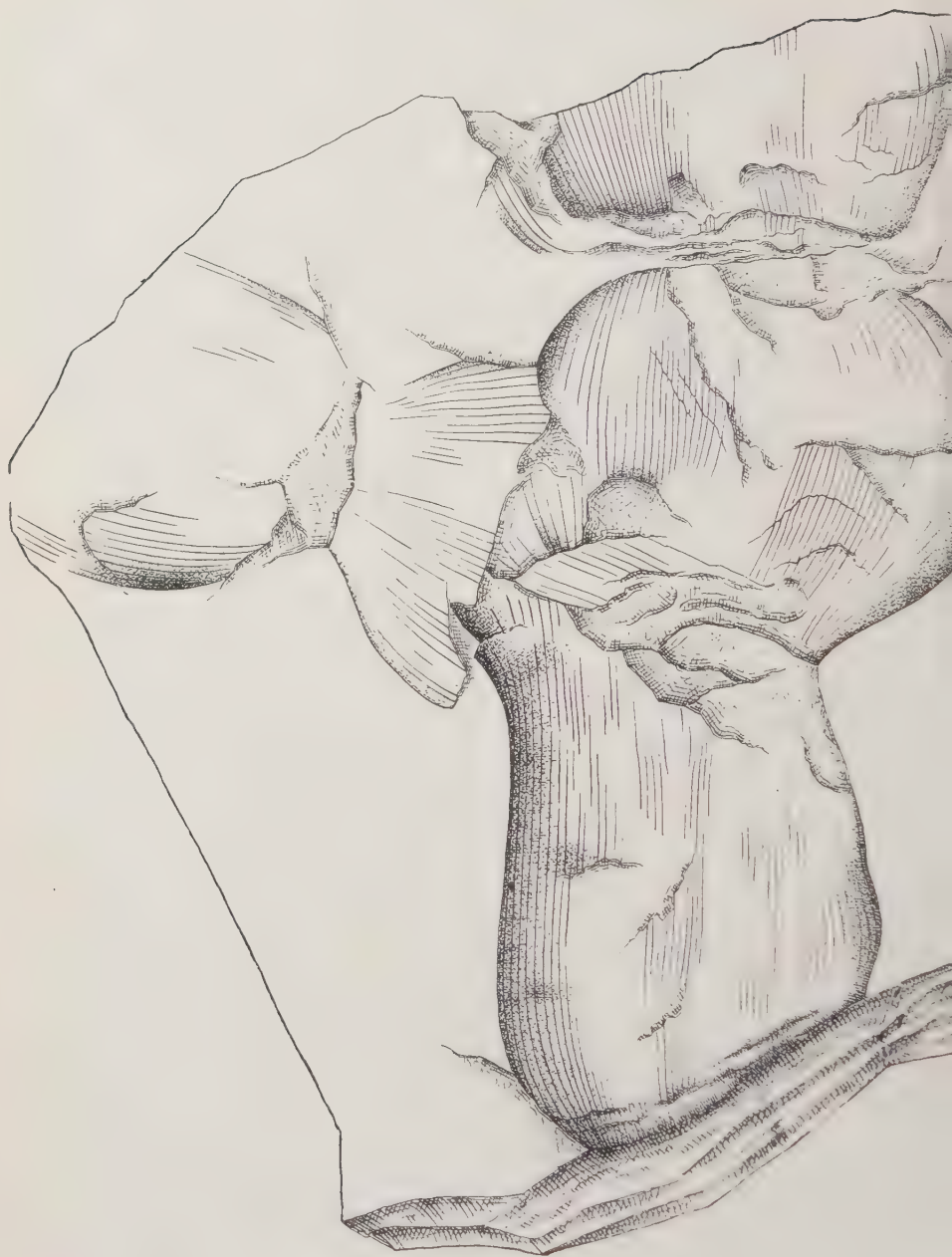
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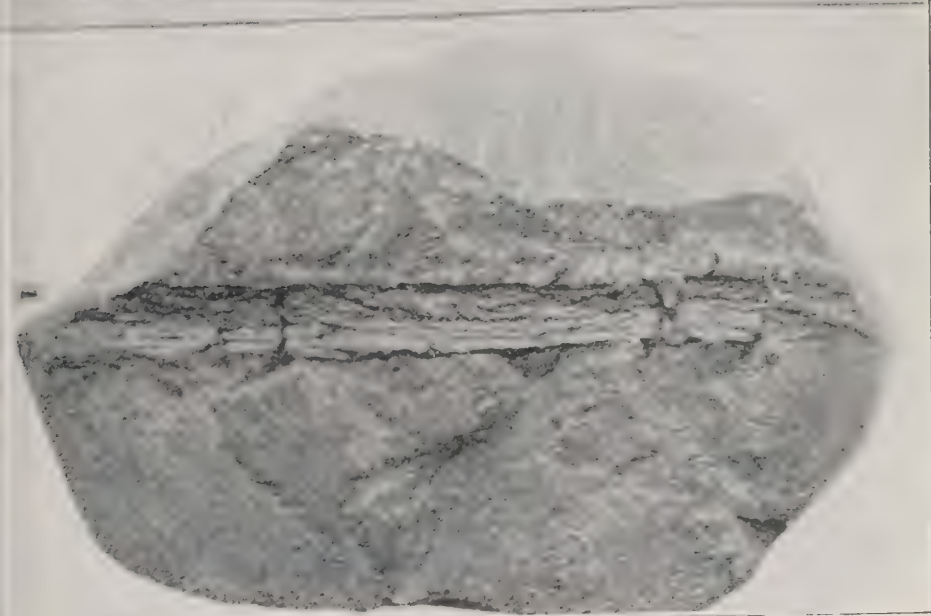
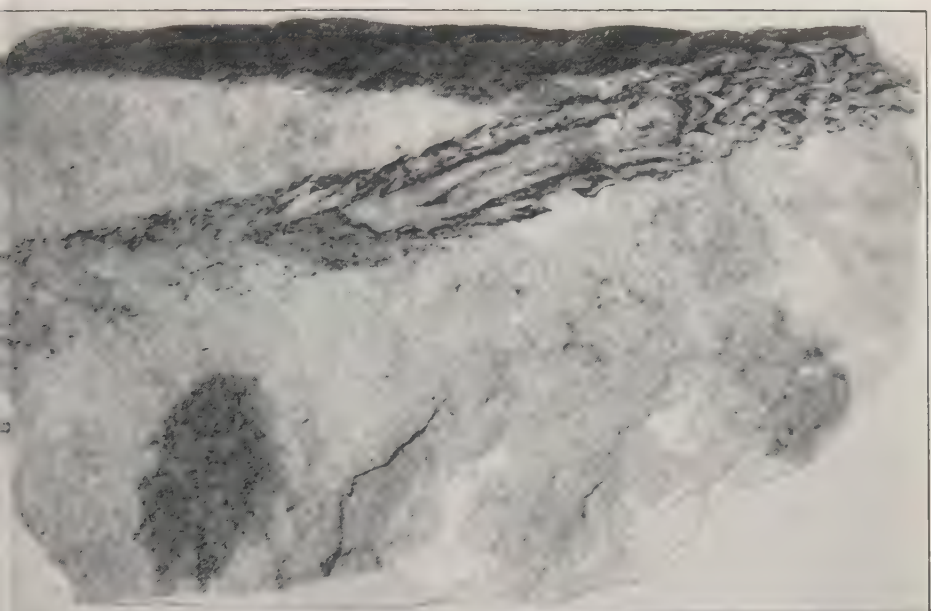
HERRICK: TRIASSIC FOSSILS

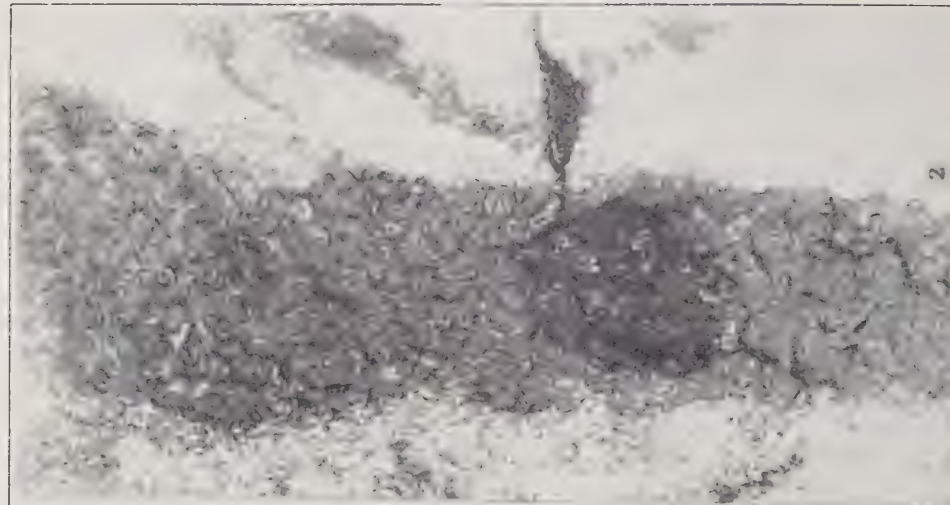
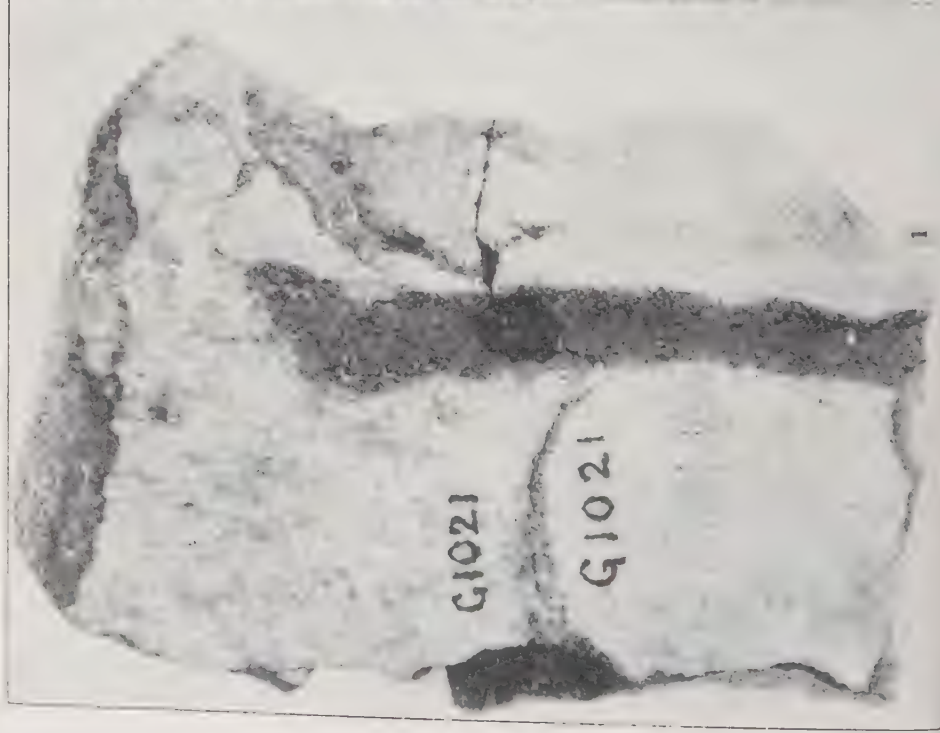


HOLLICK: TRIASSIC FOSSILS. Mesozoic Fossil Plants (for comparison)



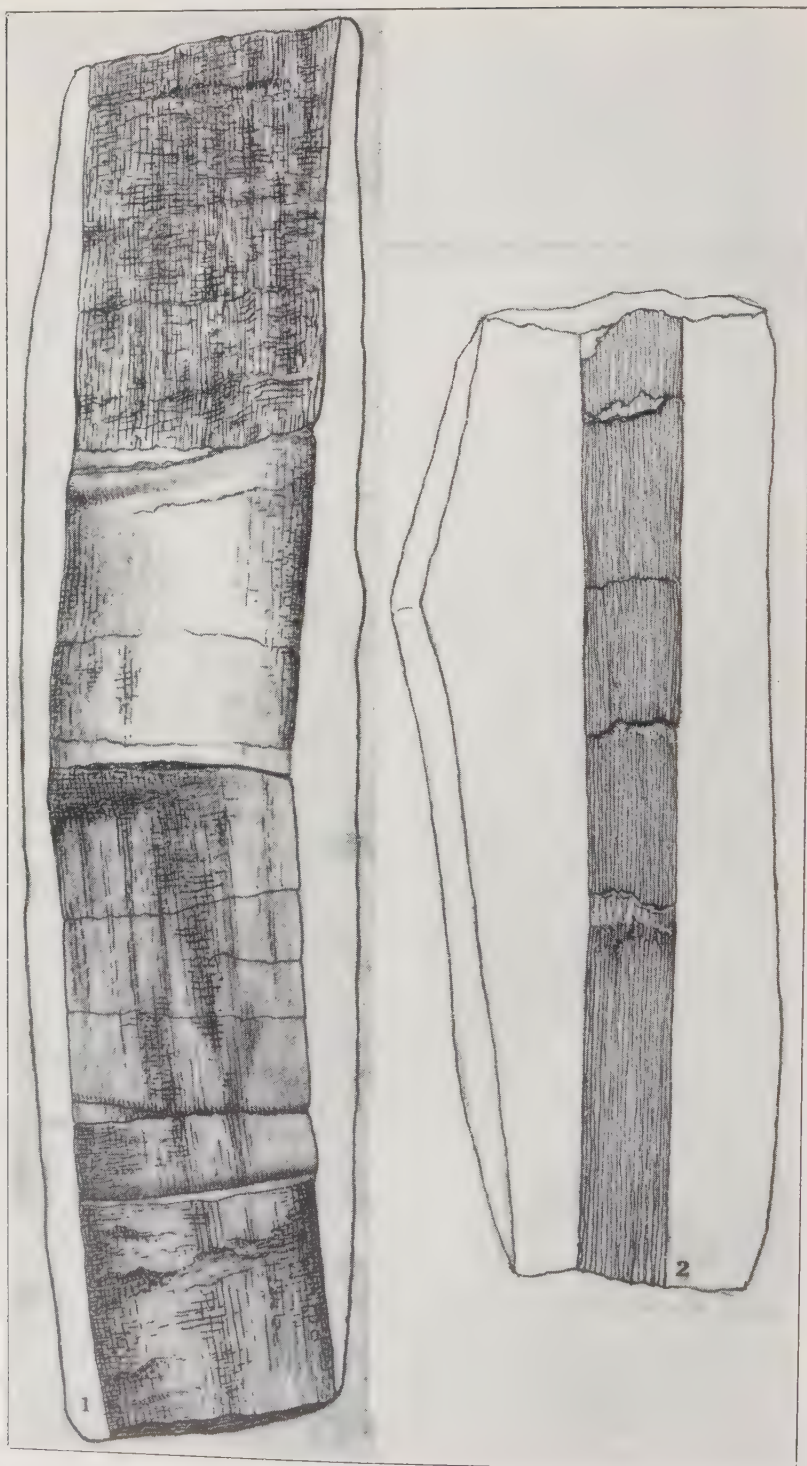
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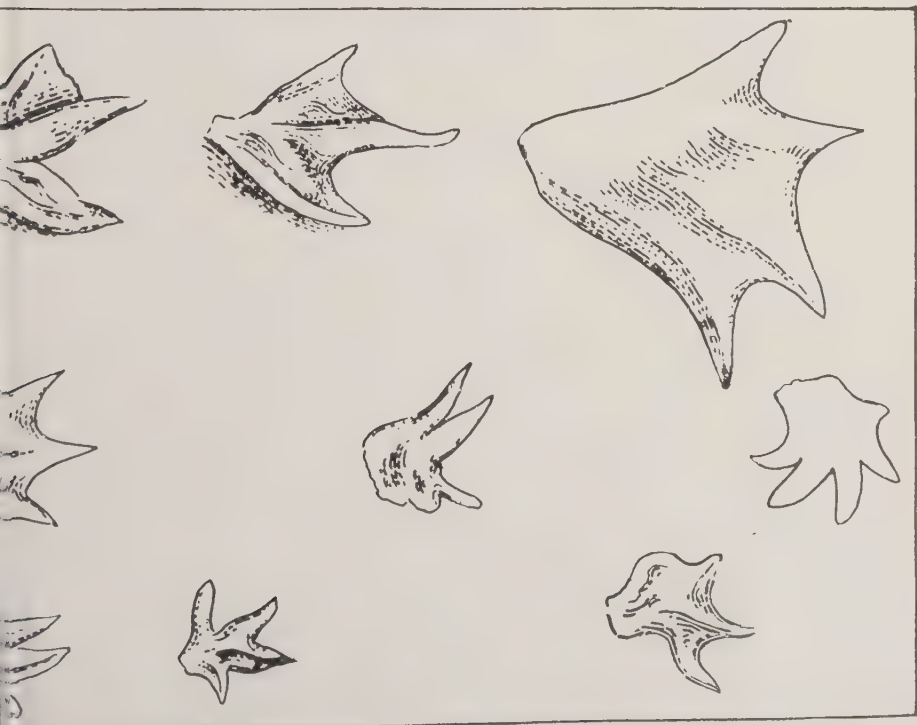
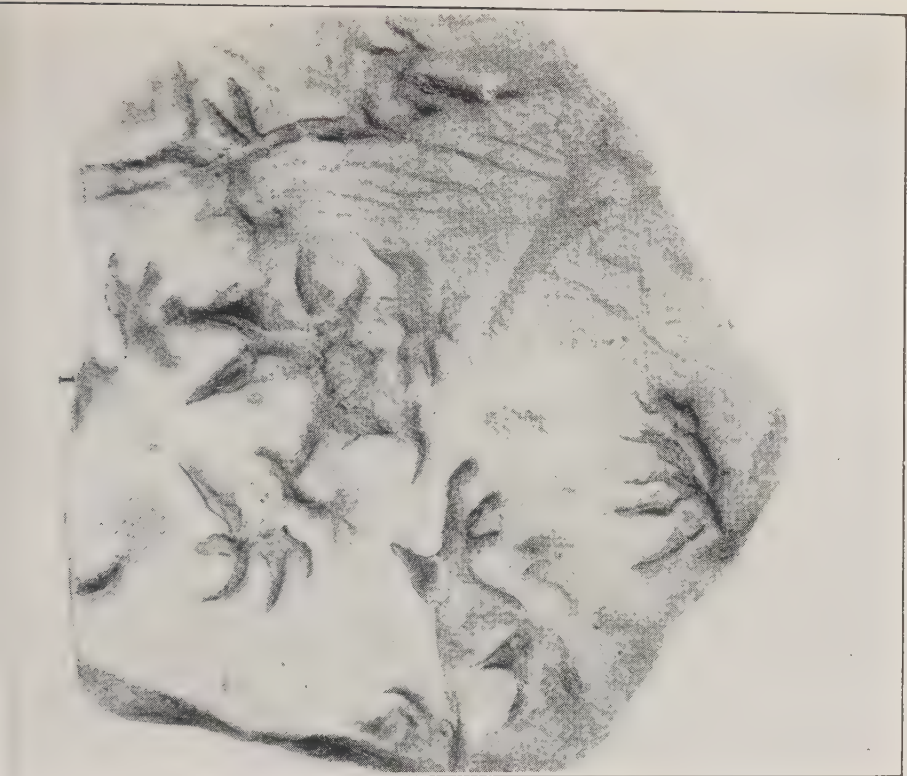






HOLICK: TRIASSIC FOSSILS







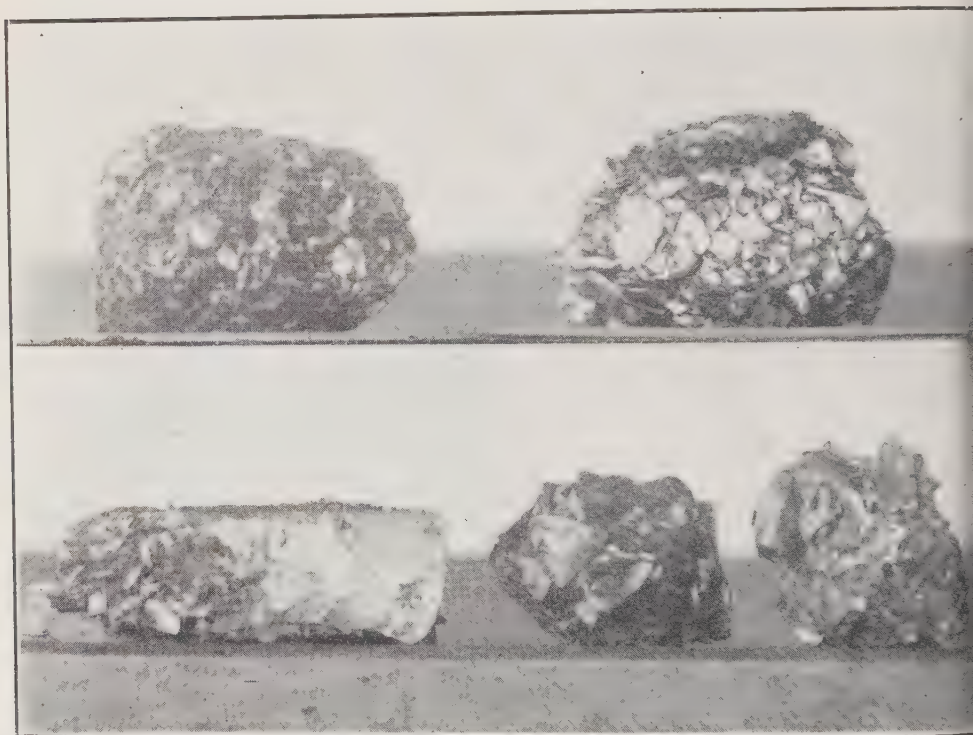
Shell Pellets of the Herring Gull

WILLIAM T. DAVIS

In the Proceedings of the Staten Island Association of Arts and Sciences, vol 1, pp. 32-33, March, 1906, the writer and Dr. James P. Chapin published a note on "Shell Pellets Found on the Beach near Oakwood," on February 12 of that year. The pellets were described as "about the size of English walnuts and break easily when handled. Some of them are composed wholly of soft-clam shells, one or two unbroken shells being occasionally included at one end. . . . The other pellets found were composed of about equal parts of broken mussel shells (*Mytilus edulis* L.) and broken soft-clam shells, which combination gave them a mottled appearance." When the pellets were found, Herring Gulls were numerous on the near-by beach, and there were also some ducks. The pellets were shown to several ornithologists and the literature was examined, but no definite information was forthcoming.

On March 9, 1931, after a storm, when there were many shells and crabs on the shore, as there were in 1906, I found three fresh shell pellets on the beach at Oakwood. There were many Herring Gulls close by, and their tracks were numerous about the pellets. It was evident that the gulls could easily fill themselves up over and over again with the mollusks and crabs which had been cast ashore, and that some of them had thrown up the superabundance of their food supply.

In those comprehensive volumes on the "Birds of Massachusetts and other New England States," by Edward Howe Forbush, 1925-1929, the regurgitation of food for the young by the Herring Gull is mentioned, but it is only in "Life Histories of North American Gulls and Terns," by Arthur C. Bent, 1921, that we have found an account of the shell pellets of the Herring Gull. The account is as follows: "Herring gulls eject from their mouths the harder particles of food, such as fish bones and crab's claws, in the form of loosely compacted pellets; some 2 inches in length. These may be seen about their resting places. I have sometimes found a few feathers in these pellets, probably plucked from the bird's own breasts."



Shell Pellets of Herring Gulls. Top row collected in 1906; lower in 1931.

Mr. Frederick M. Schott, who has spent much time on the beaches of Long Island and Staten Island, but never found any shell pellets, called my attention to Mr Brent's statement of 1921. It is evident that with a large food-supply on the beach, such as occurs after a storm, that the shell pellets of the Herring Gulls are more apt to be found.



ROYDEN WOODWARD VOSBURGH

Royden Woodward Vosburgh

CHARLES W. LENG

Royden Woodward Vosburgh, genealogist and historian, died on Monday, May 18, 1931, in his fifty-seventh year. A requiem mass was celebrated at St. Peter's Church, New Brighton, on Thursday morning. Mr. Vosburgh was born at Buffalo, N. Y., on February 5, 1875, the son of William Henry and Caroline Estelle (Woodward) Vosburgh, and a lineal descendant of Abraham Pietersen Vosburgh, a settler in the colony of Rensselaerswyck in the year 1649, who married Geertruy Pieterse Coeymans. He was educated at Browne and Nichols School in Cambridge, Mass., and at Harvard University 1893-1896. On April 15, 1896, he married Leonie Marie Milhau in Brooklyn; and for the next five years was engaged in the real estate and investment securities business in Buffalo, N. Y., leaving there to become vice-president and director of J. Milhau's Sons, Inc., druggists and importers, New York. In June, 1903, he was elected president of that corporation.

Beginning in 1913, Mr. Vosburgh, as archivist and historian of the New York Genealogical and Biographical Society, devoted himself to the copying of New York State church records. During his connection with that Society he completed the records of 92 churches, comprising 101 volumes and 19,674 pages, including the history of many of the churches, particularly that of the Reformed Dutch Church, of Wawarsing, Ulster County, published in 1920. An unusual knowledge of ecclesiastical and genealogical literature resulted, and led to his services as a professional genealogist being widely sought. At the time of his illness, which began in September, 1928, he was thus engaged in preparing the genealogy of the Force family.

Mr. Vosburgh's connection with the Staten Island Institute of Arts and Sciences began in 1922, and resulted in the publication of 9 volumes, comprising 1643 pages of Staten Island church records and gravestone inscriptions. In this work he was assisted by William T. Davis and Charles W. Leng. The records of Woodrow Methodist Episcopal Church were published in June, 1922, and were followed by those of Reformed Dutch Church in

Tompkinsville, Asbury and Bethel Methodist, Reformed Dutch Church in Port Richmond, Richmond and Westfield, and St. Andrew's, St. Paul's, and St. Luke's Protestant. The records of St. Mary's Protestant were copied but unpublished at the time of his death. About 10,000 gravestone inscriptions were also copied including Woodrow, Asbury, New Springville, Bethel, Port Richmond, Sylvan Grove, Merrell, Hillside, Ascension, Staten Island, Fountain, West Baptist, St. Luke's, Vaughan, Lake, North Side, Marine, and part of Silver Mount Cemeteries. Six copies were typewritten of each by Mr. Vosburgh, one being deposited in the public museum, the other five distributed to libraries in Washington, Albany, New York and Brooklyn. Several are illustrated from photographs by Mr. Davis, and a few other sources, making 45 plates; and the gravestone inscriptions have been indexed by Mr. Vosburgh with the assistance of his son, Pieter C. Vosburgh. The extreme accuracy of Mr. Vosburgh's work has made these volumes of value to students of Staten Island genealogy, by whom they are almost daily consulted.

A complete list of Mr. Vosburgh's contributions may be found in the annual bibliography of "Writings on American History." The last of special interest was "The Settlement of New Netherland, 1624-1626" published in the New York Genealogical and Biographical Record in January, 1924. It exhibits his learning and his trenchant style of composition in a remarkable degree. He was also co-author of "The Church of St. Andrew," published under the auspices of the Staten Island Historical Society in 1925.

Mr. Vosburgh, besides his membership in the New York Genealogical and Biographical Society, where he was a member of the publication committee, and of the Staten Island Institute of Arts and Sciences, of which he was elected a patron in 1924, was a member of the following societies: Staten Island Historical Society, life member; Holland Society of New York, since October 12, 1899; Holland Society, Richmond County branch, vice-president 1926; American Historical Association; New York State Historical Association; New York Historical Society, and New Jersey Historical Society.

He leaves five children and eight grandchildren: Philip Milhau, b. February 7, 1897; married Olga Miller-Jones, July 14, 1920

-children: Philip de Milhau, Jr., b. January 19, 1921; William Richard, b. May 26, 1923. William Henry, b. August 9, 1898; married Charlotte Louise Roehrig, 1923—children: Renée Marie, b. January 23, 1926; Joan, b. April 4, 1927; Helene, b. July, 1929. Peter Coeymans, b. January 10, 1901; married Alice Ramey Meyer, Dec. 14, 1925—children: Leonie de Milhau, b. January 3, 1927; John Woolverton, b. December 13, 1929. Catharine, b. August 16, 1903; married Reuben Stockwell Winchester, June 23, 1928—child: William Richard, b. November 5, 1929. Elizabeth Moore, b. May 8, 1905.

Mr. Vosburgh's home was at 13 Lenox Place, New Brighton, where his extensive historical library is housed, and where, as a member of the Republican County Committee, he exercised a useful influence in civic affairs.

Natural History Records from the Meetings of the Staten Island Nature Club¹

WILLIAM T. DAVIS

The meeting of June 28, 1930, was held in the Public Museum.

Mr. Charles W. Leng called attention to the fact that E. Winslow Ames, former president of the Children's League of the Staten Island Museum in 1919, had recently been appointed head of the museum at New London, Connecticut.

Mr. Howard H. Cleaves reported the finding of a banded barn owl (*Tyto pratincola*) by a workman at the plant of the Oakland Chemical Company at Rossville, Staten Island, on May 2, 1930. The bird had made her home and deposited four eggs in the upper part of a water tank and while entering or leaving had fallen into the water from which she was rescued by her discoverer. The incident was reported to Mr. Cleaves by Mr. William Anderson, of 2807 Arthur Kill Road, who also stated that an aluminum band of the U. S. Biological Survey was on the bird's right leg, the serial number of the band being 232,155. On May 4th Mr. Cleaves said, he went to Mr. Anderson's home in company with Mrs. Cleaves and Wm. T. Davis, examined the owl, verified the band number, and witnessed the release of the bird at the base of its water tower home. A report from the Biological Survey under date of May 20, 1930, revealed that the "chemical" owl had been banded as an immature bird at Horsham, Pa., on June 25, 1929, by Mrs. Florence C. Griscom.

Mr. Cleaves also told of having been with Mrs. Cleaves on a camping trip in southern New Jersey. While at Reed's Beach, Cape May County, on the shore of Delaware Bay, he witnessed the odd manner of taking eels in that region. It was explained that the eel catching is accomplished during the spawning season of the King crab (*Limulus*) which occurs during May and June. The hand-eeler secures a female King crab bearing an egg mass, breaks the animal open and secures the eggs together with a portion of the hard, chitinous shell to which the eggs are attached. These eggs are held against the bottom by the toes of the fisher.

¹ These records have been largely compiled from the minutes of the club.

man, the eels soon coming around for the feast. The fingers, held apart so that the eels may wriggle between them in reaching the food, are kept thrust down close to the crab eggs. When an eel of suitable size is felt he is gently maneuvered into position so as to be lightly grasped by both hands, whereupon he is heaved quickly out of the water upon the sand of the beach. Using a fragment of a King crab shell with only a few eggs still clinging to it, Mr. Cleaves said he succeeded in catching five small eels which he and his wife later ate for their evening meal on the shore.

Mr. Herbert F. Stone related some strange happenings in Lewellyn Park, Orange, New Jersey. Each morning certain families discovered that their milk bottles had been tampered with, the caps being punctured and the cream taken off the top. By close observation they discovered an opossum to be the culprit.

Dr. Frank A. Strauss reported a number of lilies, *Lilium philadelphicum*, in the woods near the railroad station at Princes Bay. This species is becoming rare on the Island.

Mr. Joseph F. Burke reported seeing a house sparrow catching insects in the air, after the manner of a flycatcher.

Mr. Carol Strýker stated that on May 28 he had observed the following birds at Oakwood Beach: Dowitcher, Black Tern, Red-backed Sandpiper, Greater Yellow-legs, Sanderling, Semi-palmated Sandpiper, Least Sandpiper, Black-bellied Plover, Killdeer, Semi-palmated Plover, Ruddy Turnstone, Sharp-tailed Sparrow, Seaside Sparrow, Clapper Rail.

Mr. Nicholas Demerac exhibited a young weasel which he had caught at Old Place, Staten Island. Three were seen, of which only one was captured. This animal entered an old pitcher lying on a pile of rubbish, and by placing his hand over the top of the pitcher Mr. Demerac prevented its escape.

Mr. Wm. T. Davis stated that the close tangle of catbrier, grapevines and many bushes and trees to be found at the head of Mersereau's Valley opposite the old Stillwell-Perine House on the Richmond Road, made the place an ideal home for many birds, and that at present there were resident there two cardinal grosbeaks, several yellow-breasted chats and mourning doves, in addition to other more common species.

Mr. Davis showed a herbarium specimen of the Bristly Sarsaparilla, *Aralia hispida*, collected on a sandy dune at Watchogue,

June 17, 1928, about where the most southerly tanks of the Gulf Refining Company now stand. This species was known from the Island by a specimen in the Dr. Samuel Elliot collection found many years ago, presumably by the botanist R. A. Broune, and its rediscovery is of considerable interest. He also stated that the Lesser Celandine, *Ficaria ficaria*, an introduced species, still continued to grow in abundance along the Willow Brook road and back of the old Willcox home, along the lane and by the brook-side, and that in the latter part of April the profusion of bright yellow flowers and the dark green of the foliage make it well worth a visit to the locality. The plant at one time also grew near the junction of Little Clove road with the Turnpike, but has been destroyed at that locality. He further stated that probably the largest number of persimmon trees now growing on the Island were to be found near the edge of the marsh on the northerly side of the Boulevard in Wolfe's Pond Park, where there are about fifteen trees. The species was at one time generally distributed over the Island.

The meeting of September 27, 1930, was held in the Museum attic. Mr. Joseph F. Burke acted as secretary for the meeting.

Mr. Charles W. Leng introduced Mr. R. W. Douglass who gave an account of a fossilized tree butt (a gift by him to the Museum) found during the construction work on the Gilboa Dam. He pointed out that it was not petrified but had apparently formed a solid sandstone mould of the butt of a tree, the sand being deposited by water action. Mr. Douglass said that at the spot this specimen was found, several superimposed layers were opened up so that the process of tree growth, the deposition of the sand around the base eventually killing off the trees, the establishment of a swamp and the growth of new trees had occurred in cycles over a long period of time.

Mr. Leng referred to the varying estimates of geologic time arrived at in connection with the collection of drift fossils in the Museum, and cited the 1929 edition of the Encyclopedia Britannica. The estimates based on radio-activity were described by Capt. Thomas I. Miller in a short paper on the subject.

Dr. Frank A. Strauss during the summer had spent some time abroad with his family, for the greater part in Belgium, but with a stay in Luxembourg and short visits to Paris, Holland and Ger-

many. In Luxembourg they stopped in the mountains, which are of limestone, curiously eroded. The forests are very old, not virgin, but large and fine, being cared for after the fashion of European forestry. There are many Roman ruins in the region. The birds were not numerous and the flora seemed less rich in species than on Staten Island. In Belgium they saw the life of the sand-dunes on the North Sea Coast. It is somewhat like that of the shores of Staten Island but not as rich, and they did not see many birds. Some plants were collected.

Mr. Wm. T. Davis referred to the storm of August 22, 1930, and stated that he and Mr. Hans L. Stecher had visited the beach at Oakwood the next day to see what had been cast ashore. He exhibited two masses of the Bryozoan, *Alcyonidium mytili* Dallyell, of which quite a number had been washed ashore. The distribution of this species is given in Pratt's "Common Invertebrate Animals," as from the Arctic Ocean south to Long Island Sound, on stones, piles, crabs, etc., from tide lines to deep water. It is also found in Europe. Its occurrence in our Staten Island waters should be recorded. The Northern Pipe-fish, close relative to the Northern Sea-horse, had also been found on the beach. On September 10, 1930, Mr. Davis had visited Oakwood beach in company with Dr. Wm. H. Wiegmann and Mr. J. P. Magee. He exhibited the Tumble-weed, *Cycloloma atriplicifolium* Spreng., now not uncommon on the beach at Oakwood, and also the Tumble Mustard, *Sisymbrium altissimum* L., still more common on various filled-in areas on the Island. He stated that he, Dr. Wiegmann and Mr. Magee had gathered a considerable number of the Ribbed Mussel, *Modiola plicatula*; boiled them in sea-water in a five gallon oil can for about ten minutes, and then had eaten them. When thus treated they were very good and no ill after effects had been experienced. It is reported, however, that the Ribbed Mussel when eaten, sometimes causes severe indigestion.

Mr. Davis further stated that it was of interest that the south-westerly end of the beach at Oakwood was building up and that during the past two years or thereabouts, it had become so high that it is now above high-water mark. Exceptional tides may still overflow it, but it is gaining in height. It would appear that since Crooke's Point became "Crooke's Island," which happened about 1902, it is slowly moving south-westward and that the distance

between the end of the beach and the Island has grown so great that the current is becoming less and less strong. This has permitted a new dune or "Point of Sand" to arise at the end of the beach, that will, like the Crooke's Point of old, grow, if not disturbed by man, to considerable size. The dune is now frequented by numerous birds, and at this season many of their feathers are to be found there.

Mr. Hans L. Stecher gave an account of his four-day motor trip over Labor Day week-end with Mr. Fred C. Olwig to Montauk Point, Long Island, with interesting visits to various localities on the island. The high magnetic content of sand collected at Montauk Point was demonstrated by means of a magnet. Mr. Stecher reported finding a Membracid, *Archasia galeata* Fab., on July 31, 1930, in Mersereau's Valley. This species had not previously been reported from the Island. At this latter locality he collected a tick and at the Great Swamp, New Springville, an additional one, thus establishing that they are not extinct on the Island, although none had been collected for some time. He exhibited a mushroom, *Polyporus lucidus*, collected in Mersereau's Valley on July 31, 1930, and showed his aquarium containing a brook pike taken August 1, 1930, at Bull's Head.

Mrs. Thomas I. Miller exhibited an aster, *Ionactis linariifolius*, from her garden; originally from Connecticut. This is variously called the violet-ray, the sandpaper aster, pine starwort, stiff or savory-leaved aster. This species also occurs on Staten Island in sandy situations.

Mr. Howard H. Cleaves reporting on an automobile camping trip to the Adirondacks this summer, showed three flash-light pictures taken by means of the Nesbitt flash-light gun, the manipulation of which he described. The shutter action is synchronized with the explosion of the powder so that the exposure is made at the peak of the flash. The first picture, a set near their St. Regis River camp resulted in the capture, on the film, of a snowshoe rabbit. The second showed a great blue heron. The third, which Mr. Cleaves said was his best flash-light capture, was of a red fox at the bait. The fox was shown looking at the camera as the shutter opened, showing his wonderful alertness for he had probably heard the gun tripped, and raised his head before the flash, although the operation is almost an instantaneous one. Pictures of their various camps were also shown.

Mrs. Howard H. Cleaves showed some fine drawings of oak leaves and some of the tracks left by the animals attracted to the bait-traps set by Mr. Cleaves for the previously mentioned photographs.

Mr. Ernest Beaumont showed a book of sketches made during the summer.

Mr. Carol Stryker reported on birds seen during the summer. Two or possibly three yellow-crowned night-herons were at Crooke's Point. For this find he gave credit to Mr. Harold Decker. He spoke of the use of a canoe in observing the birds by which he had seen a great many of the familiar ones. One bird seen he took to be the short-billed marsh-wren. (See meeting of September 22, 1928.)

Mr. Pinney Schiffer spoke of a whale on exhibition at the foot of 92nd Street, New York, and showed copies of the first photographs to arrive here, through the Associated Press, of the finding of the remains of the Andree expedition.

The meeting of October 25, 1930, was held in the Public Museum. The nominating committee, Mr. Beaumont, Mr. Logan and Captain Miller, nominated the following: for President, Mrs. Carol Stryker; for secretary, Mr. Hans L. Stecher. They were unanimously elected.

Dr. Frank A. Strauss exhibited a collection of plants which he had recently made in Belgium and also showed a number of specimens of talc taken from Emerson Hill, Staten Island. He also spoke of the very interesting "Insect Zoo" at the Jardin des Plantes, Paris.

Mr. Charles L. Pollard exhibited three cases of Morpho butterflies which he had recently collected in Brazil and Peru and described their habits and his methods of capturing these beautiful butterflies.

Mr. Ned J. Burns spoke of a recent visit to Bear Mountain Park, calling attention to the abundance of wild life there, particularly beaver and deer.

Mr. Carol Stryker exhibited a live great-horned owl, originally captured at Mason, Texas, and brought to Staten Island where it had escaped. It was recaptured at Great Kills and donated to the Museum by Mr. Brown, of Oakwood.

Mr. Wm. T. Davis stated that upon the receipt of a telephone message from Mrs. K. O. Nesslinger, 960 Fingerboard Road,

stating that the fire in the peat-bog near the intersection of Clove and Britton Avenues, Concord, had again started, he had visited the swamp, which is on the old Daniel Wandel farm. The swamp is gradually drying up but supported, until the fire, a fine growth of blackberry bushes, some birches, wild cherry, a few small trees of the poison sumach (*Rhus vernix*), etc. On October 8, smoke was issuing from several hundred vents and was so dense that at times one could see but a short distance. Several acres of the bog had been burned out last year, the fire lasting about 8 weeks in spite of the great efforts to put it out by volunteers and by the fire department. This fire was recorded in the Proceedings of the Nature Club for November 23, 1920. At that time about two acres of the bog were burned out. The fire of this year was nearing the northerly part of the swamp, and from the lay of the land, it was evident that but little peat remained. On October 8, four firemen were on hand and an engine was steadily pumping a considerable stream of water on to the burning area. Last year there was also another fire in a neighboring peat-bog according to information from one of the firemen.

The bog was again visited, October 13, by Mr. Davis in company with Mr. Junius Bird, and the fire was found to be apparently extinguished through the efforts of the fire department. At that time some of the unburned peat was examined and many leaves, compressed moss, and stems of various plants were found. Also, as in the peat examined in 1899 from the bog in the Moravian Cemetery, the elytra of *Donacia* beetles were found. The 1899 find was noted in the Journal, New York Entomological Society, 1902, page 251. Specimens of peat from several Staten Island bogs, as well as photographs of the burning bog of 1930, were shown.

Mr. Davis also showed the following: 1. An immature and a fully grown walking-stick insect, *Manomera atlantica*, collected among the golden-rods on a dry hill-side in the Fort Wadsworth Reservation at the Narrows. This species is usually found in low-lying meadows, and was originally described with Staten Island as the type locality, but is now known from Massachusetts to Virginia. No males have thus far been found. The mature specimen, collected September 4, 1930, laid 53 eggs, some of which were also shown. 2. Oak Apple Galls, *Amphibolips con-*

lentus Harris, collected near Bear Mountain, New York, October 19, 1930, from black oak and scarlet oak. Galls from the scarlet oak are much thinner walled than those grown on black oak, which has thicker leaves. 3. A Burr Fish, about 5 inches in length, collected in the Kill van Kull at Livingston, Staten Island, October 2, 1930, by Wm. Parker and Jerino Capuano.

The meeting of November 22, 1930, was held in the Public Museum.

Mr. Charles W. Leng exhibited specimens of Andalusite, variety Chistolite, from the S. D. Heath collection, and copies of the *Pe Times*, containing interesting illustrations of African scenery. The papers were the gift of Mr. Lorenzo G. Lyon. He also called attention to recent calculations of the age of the world, based on radioactivity and its mineral products, resulting in figures as high as 1,852,000,000 years. Mr. Leng also exhibited a desiccated cat, found under his house at West New Brighton, in which the skin and bones had been preserved, and referred to an article in *SCIENCE* in which similar desiccations were mentioned. The Staten Island specimen had been prepared by Mr. Davis.

Dr. Jablonsky stated that such desiccations, without decay, were due to the absence of certain bacteria.

Mr. W. Anderson exhibited a black form of a milk snake which was caught on Mt. Tammany. It was a young specimen.

Mr. G. B. Wilmott showed a fine, grooved stone ax, a very perfect specimen, which he found at Woodrow, Staten Island, October 19, 1930.

Dr. Jablonsky delivered an address on the Psychology of Insects, illustrated by lantern slides. He mentioned observations on spiders, wasps and necrophorous beetles.

Mr. Wm. T. Davis exhibited two Kemp's turtles, *Caretta mydas* (Garman); a dried specimen found on South Beach, Staten Island, about 1905, and one that had been brought to the Museum last summer, also from the south shore of the Island. This last, before it was dried, had been soaked in a solution of alcohol and formalin with a little corrosive sublimate added. This resulted in a well cured specimen for the Museum collection. Each of the turtles was a little over a foot in length, but specimens of the species grow much larger. He also showed a number of winged ants belonging to the species *Lasius claviger*, which had

been observed swarming from a nest at 146 Stuyvesant Place on November 14, 1930, a warm day, after the cold snap of November 6, when ice formed in a nearby pail of water to the thickness of $\frac{5}{8}$ of an inch. On November 22, another warm day, winged ants were again issuing from the same nest. On November 7, 1922, this same species was found swarming on Fort Hill, Staten Island. Females of *Lasius murphyi* and *Lasius latipes* from Staten Island were also shown.

Mr. Davis further stated that on May 25, 1930, a warm day, a male and female *Epiaeschna heros*, our largest dragonfly, had been seen together at 146 Stuyvesant Place. By May 27 it was extremely cold for the season, in spite of which an *Epiaeschna* was seen hawking up and down Stuyvesant Place behind the Court House. The next day, a female *Epiaeschna*, and possibly the same individual, was found in a dying condition, lying on the piazza at 146 Stuyvesant Place, apparently overcome by the cold that had continued for several days. It was pointed out that these large insects sometimes migrate northward before it is entirely safe for them to do so. This year Mr. Joseph F. Burke had found a dead female *Epiaeschna* on Remsen St., Brooklyn, as early as May 4. This specimen was also shown. Two *Cicadas*, *Tibicen canicularis* and *Okanagana canadensis*, both collected in July, 1930, in New Brunswick, Canada, by Mrs. Stryker were exhibited, and it was explained that these species of northern range have a wide distribution east and west across the continent.

Mr. Davis further stated that on October 19, when several members of the Nature Club went up the Hudson to Bear Mountain, Mr. Cleaves had collected a considerable amount of the fruit from a vine of the small grape (*Vitis aestivalis*), from which Mrs. Cleaves had made some jelly. A jar of this jelly was exhibited and at the end of the meeting it was sampled by the members along with the other refreshments.

The meeting of December 27, 1930, was held in the Public Museum.

Mr. Carol Stryker exhibited three eggs of a Dwarf Cockatoo, a gift from Mrs. H. Harrison, of 19 Brownell St., Stapleton.

Mr. Stryker also showed a snuff box cover bearing the initials "W. J. C.," which he had found at the old British fort at Richmond. The cover had been examined by Mr. W. L. Calver, of

the New York Historical Society, who wrote as follows: "Referring to the Snuff Box Cover found at the fort at Richmond, I wish to advise that looking through Ford's Officers (British) in the Revolution, and in America, I find only one gentleman who fits it with the initials "W. J. C."

"He was Sir W. J. Cockburn who was commissioned Ensign in the 26th Regiment on May 26th, 1780. In the winter of 1776-77 the regiment was at Amboy.

"The 26th remained with Sir Henry Clinton until the Army was reunited in consequence of the evacuation of Philadelphia in 1778.

"It does not appear what particular share the 26th had in the desultory operations of his campaign during part of which the regiment was at Staten Island. Staten Island is often mentioned; New York not at all.

"The staff went home to England in 1779, and the men were divided among other regiments. Now you will note that Cockburn was commissioned May 26, 1780, but he may have served as an ensign previous to date of his commission.

"We found 26th Regiment buttons at Richmond Fort."

Mr. Howard H. Cleaves stated he observed that the fox squirrels were more common than gray squirrels on his uncle's farm in southern Indiana. His uncle considered a wood lot a liability, for which he had to pay taxes, while the trespassers cut his trees to secure wild honey and hunters at times started fires in it. From this woodland he himself gets only a small amount of wood for fence posts, etc. Mr. Cleaves also reported seeing tracks of a mink on Staten Island during a walk on Christmas Day.

Capt. Thomas I. Miller, reported blue birds from Annadale, which were seen on the 21st, the coldest day in December.

Mr. Wm. T. Davis stated that blue birds were not as numerous on the Island as they were some years ago. Referring to the scarceness of minks, he stated that the pollution of salt meadow streams by oil refineries, etc., is responsible for that, and also that the Fiddler Crabs, once very abundant, are gradually disappearing in places on the meadows for the same reason.

Mrs. Henry Trench, a strong advocate for the conservation of our wild life, reported that she had not seen one single man with

a gun on Pheasant day this year, while in former years the woods around her home at Green Ridge resounded with the reports of firearms.

Mr. Harold Decker observed on October 12, 1930, two Carolina wrens at Oakwood Heights. The birds were in a tree near the salt marshes, and attracted attention by rather loud chattering. The species is becoming rare on the Island.

Mr. Hans L. Stecher exhibited the rare beetle *Anthophilax viridis* Le Conte. It was collected by Mr. Joseph F. Burke, July 5, 1930, at Mt. Everett, southwestern Massachusetts. While he was walking down the road from the summit, after visiting the fire tower, the insect lit on his hand. (See "Synopsis of the Anthophilax of North America," Alan S. Nicolay, Journal, N. Y. Ento. Soc., March, 1917).

Mr. Wm. T. Davis stated that a flock of juncos had appeared in his garden, 146 Stuyvesant Place, on Christmas Day, and that a number of house sparrows associated themselves with the visitors. Some weed seeds and the hop vines growing on a fence, were the attractions. He showed specimens of the Cicadas, *Tibicen pruinosus*, *T. auletes* and *T. linnei*, that were killed just as they had reached maturity of form and before they had assumed final colors, the result being that all the insects had remained green or partly green in color. He pointed out that occasionally in the rarer species about which less is known, killing the specimens too soon might cause some confusion.

A number of Natural History Christmas Cards were shown. One from Mr. and Mrs. A. T. Beals was a photograph of the orchid *Habenaria psycodes*, 41 inches high; one of a wild duck and her eggs, from Dr. John W. Sugden of Salt Lake City, and one from Dr. James P. Chapin sending a Christmas greeting from Lukolela, Belgian Congo, Africa, and his Staten Island home. He had also sent a photograph of some mushrooms found at Lukolela, with luminous stems emitting a greenish light like radium paint.

At the close of the meeting Mr. Davis also exhibited the series of Uncle Toby Callisen Christmas books dating back to 1923. The book for this year: "Pine or Palmetto, A Story of North and South, with the Setting in Old Staten Island," has appeared twice in print, but the many original illustrations in color added by the author, make the Christmas copy of more value and interest.

The meeting of January 24, 1931, was held in the Public Museum.

Capt. Thomas I. Miller spoke of an interesting exhibit in the lobby of the *News* building. He further gave some helpful hints for building proper blue-bird homes, and reported three blue birds at his Annadale home.

Mr. Carol Stryker gave the Christmas Bird Census as follows: Staten Island, N. Y., West New Brighton, Richmond and Oakwood Heights to Eltingville, Pleasant Plains and Tottenville. December 28: 7 a. m. to 5 p. m. Cloudy; thin interrupted mantle of snow, wind northwest, light; temperature 35 at start, remaining almost constant. About 20 miles on foot. Observers independent at start. Great Black-backed Gull, 8; Herring Gull, 1692; Laughing Gull, 3 (Decker); Bonaparte's Gull, 1; Red breasted Merganser, 4; Black Duck, 9; Greater Scaup Duck, 55; American Golden-eye, 38; Buffle-head, 1; Brant, 3 (Decker); Great Blue Heron, 1; Killdeer, 1; Ringnecked Pheasant, 7 (2 males, 5 females); Marsh Hawk, 2; Red-shouldered Hawk, 1; Rough-legged Hawk, 2 (Stryker & Cleaves); Sparrow Hawk, 2; Barn Owl, 1; Short-eared Owl, 1; Screech Owl, 1 (red); Downy Woodpecker, 5; Northern Flicker, 5; Blue Jay, 12; Crow, 58; Fish Crow, 1 (Decker); Starling, 157; Meadow lark, 30; Grackle, 1 (Stryker); Goldfinch, 10; Savannah Sparrow, 1; Tree Sparrow, 144; Field Sparrow, 2; Slate-colored Junco, 40; Song Sparrow, 39; Swamp Sparrow, 4; Fox Sparrow, 2; Northern Shrike, 1; Winter Wren, 1; Long-billed Marsh Wren, 1; Chickadee, 1; Golden-crowned Kinglet, 1. Total, 41 species, about 2348 individuals. House Sparrows noted in small numbers. Harold K. Decker, Carol Stryker and Howard H. Cleaves.

Mr. A. W. Callisen read an interesting paper on "Some of Our Common Birds and Their Eggs." He told of the general practice among boys years ago of collecting birds eggs, and though he regretted having made such a collection, the amount of bird-lore thus acquired was very evident. "In later years," he said, "I discovered that the same end can be reached by observation without removing the eggs, hence I advise the younger generation: Admire the bird's egg, study it, but leave it in the nest."

The following are some of the numerous observations: "We boys always began our search by the middle of April [for the

screech owl], and before the end of the month were pretty sure to find the four spherical eggs resting upon a little dry grass or sometimes dry leaves, at the very bottom of a long sheltered cavity. One would naturally expect to see a round-headed, round eyed creature hatch out of such a ball of an egg." As regards the color of eggs: "And here it may be well to note that on the whole there is little relation between the bird and the color of its egg, but the surroundings of its nest seem somewhat to influence the tint and markings. They often blend surprisingly well with their environment, and are camouflaged by means of specks and blotches which make them less conspicuous. Thus the favorite ground-tint for birds that build open nests is a greenish-blue with various markings, all tending to blend with the grass and weeds which surround them. The eggs of birds, however, that conceal their nests or lay in dark cavities are generally white, like those of the woodpeckers and nuthatches. The white eggs of the phoebe are usually concealed from above though most of the flycatchers are more or less tinted and marked. Another white-egged bird is the king-fisher, who deposits her eggs at the end of a tunnel in the bank 8 or 9 feet long, while the nest itself is composed of fish bones. For the same reason the bank-swallow, the chimney-swallow, the white-bellied swallow, and the purple martin lay white eggs, while those of the barn swallow are more or less speckled."

Then followed an account of the nesting materials used by the different species; feathers, horse-hair, leaves, wool of sheep, etc. "The barn-swallow and house-wren feather their nests with the leavings of the barn-yard, from domestic fowls, ducks or geese, and these often to their detriment as their nests are soon infested with chicken-lice. The winter-wren picks up feathers of the quail and grouse. The merry chickadee uses feathers for nest lining likewise, but they are not his own; indeed, it is very seldom that one finds even a single feather of the nest-builder. Many birds use horse hair in constructing their nests, a dangerous material as they frequently entangle their feet and die miserable and lingering deaths. King-birds and cedar birds ignore feathers, but use the wool of sheep if they are to be found in the neighborhood. If one shuffles among the withered rustling leaves of the year before, one may suddenly chance upon two curious eggs, creamy-

white and veined and spotted with lavender. There they lie as if dropped from the clouds with neither nest nor bird in sight, much as if they were puff-balls of the woodlands. These elliptical eggs with both ends of a size, were laid by the whip-poor-will and are a rare find."

Mr. Wm. T. Davis referred to the *Lasius claviger* ants which he had found swarming as late as November 22, 1930, as reported at the November, 1930, meeting, and showed a female of the same species that was observed walking very slowly across the snow in Reed's Valley, January 2, 1931. He also showed in a bottle containing about a half pint of sea-water, a living mollusk, *Littorina littorea*, and a piece of the green sea-lettuce (*Ulva lactuca*) from Oakwood beach. The specimens had been placed in the bottle on November 23. The bottle was kept corked but put in a cool place where it received a little sunlight. The snail had eaten some of the lettuce, but it and the remainder of the plant appeared to be in good condition notwithstanding the small amount of water and the corked condition of the bottle. *Littorina littorea*, and the other members of the genus, are vegetable feeders, whereas *Alectrion* (*Ilyanassa*) *obsoleta*, also common on the peat beds at Oakwood Beach, feeds on animal matter and starves to death if given nothing but sea-lettuce. ✓

Mr. Davis also showed a collection of thirty-five hen's eggs ranging all the way from almost normal in shape to several specimens of as fantastic forms as are to be met with in long-necked squashes from the garden. One of the most curious in color was a rather large egg about one half of which was dark brown, the other half much lighter, with a still lighter colored median band encircling the egg and dividing the two areas. He stated that many interesting eggs for the collection could be collected after the birds had hatched from the same, and showed some examples belonging to bob-whites, fish-hawks and black crowned night herons, the one time occupants of which he hoped might be still living. He showed the pictures of curiously shaped eggs published in "Some Biological Studies in Hen's Eggs," by Clement L. Webster in the *American Inventor*, March 15, 1903.

Photographs and a manuscript descriptive of a Rustic Zoo of between 100 and 200 animals, maintained from 1899 to 1910 in his yard in Brooklyn, was contributed by Mr. Gilbert Truslow,

now of Pavilion Hill, Staten Island, where he is engaged in writing on the subject of "Yachts and Liners," that so frequently pass up and down the Bay in view of his window.

The meeting of February 28, 1931, was held in the Public Museum.

Mr. Charles W. Leng showed the manuscript of an illustrated article by Dr. Arthur Hollick, entitled "Records of Triassic Fossils on Staten Island, N. Y.," to be published in the current volume of the Proceedings of the Staten Island Institute. One of the illustrations refers to a new species of triassic fossil recently discovered on Staten Island by Mr. Carl Geller. He also spoke of the excellent work of Ralph Dury and the Junior Society of Natural Sciences of Cincinnati, Ohio, and showed some publications from the Society. Ralph Dury is a son of the well-known entomologist, Charles Dury.

Captain Thomas I. Miller exhibited a sample blue-bird house made of cypress, one of the best kinds of wood for bird houses. The house had a little opening at the upper part of the left side for placing a microphone, for the purpose of listening to the bird notes from within. He explained that a very good suet receptacle for birds can be made out of a soap container. Capt. Miller stated that blue birds had been seen about his home on fifteen different days from January 28 to February 28, and that on February 24, he had heard them singing. On that day three blue birds were present; on the 23d there were four, and on February 16 there were five.

Mr. Elwood Logan exhibited a box containing a number of beautiful African butterflies.

Miss Gladys Hotaling exhibited a pair of newts known as *Triturus viridescens dorsalis* (Harlan) from North Carolina.

Mr. L. A. Ellison reported a barred owl seen at Forest Hill Road.

Mr. George B. Wilmott reported 3 duck hawks, and 5 bald eagles on the Palisades; also 8 long-eared owls at Ridgewood, New Jersey. He showed a flashlight picture of a red-backed salamander collected on Staten Island.

Miss Katherine S. Seaman made a motion that a letter of appreciation be sent to Capt. George F. Ferre, 390 Oakland Ave., for his influence in enforcing the city ordinance regarding the

discharge of fire-arms on the Island. The motion was seconded by Mr. Davis and the secretary was instructed to send the letter.

Mr. Carol Stryker reported seeing a mocking bird at Cranford, New Jersey, on February 16, 1931. He showed jasper arrowheads found at Echo Lake, New Jersey, and others found previously on Staten Island. He had seen during the month at Long Beach, Long Island, a very large flock of snowflakes. A northern Oriole at the time was darting about among the birds. He had also observed at the same locality about 15 myrtle warblers, a common loon and about 20 oldsquaw ducks. On February 28 six purple grackles had appeared at West New Brighton; the first spring arrivals.

Mr. Hans L. Stecher exhibited some specimens of lichens which he had collected at Lakewood, New Jersey, on February 22, 1931. They were the scarlet crested *Cladonia* (*Cladonia cristatella*), the fringed *Cladonia* (*C. fimbriata*), the brown-fruited cup *Cladonia* (*C. pyxidata*). He also showed a fine specimen of *Parmelia caperata* or wrinkled *Parmelia*.

Mr. Wm. T. Davis stated that he had found on February 4, while walking across the filled in area at Tompkinsville with Mr. Herbert F. Stone, the first Coltsfoot blossoms, which at that time were not quite fully open. On February 26, one hundred and nineteen blossoms were counted, many of them fully open. This display of blossoms gave the south side of a pile of rocks intermixed with soil, quite a golden appearance. The flower stalks were about two inches tall.

Some of the dark colored clay which underlies the salt meadow where the new bridge is being built at Fresh Kill, and some of the partly disintegrated shells of oysters, soft-shelled clams and single shells, dredged up from the creek, were shown. Apparently the water in Fresh Kill is now so impure that these mollusks can no longer live there. Capt. Miller suggested that the clay might contain diatoms and took a sample for examination.

Mr. Davis further stated that he had collected 124 of the spindle-shaped galls caused by the larvæ of the moth *Gnorimoschema gallaesolidaginis* Riley on the golden rods, *Solidago altissima* and *Solidago serotina*. He had collected them in a small area in the government reservation at Fort Wadsworth in February and March, 1930. Each of the galls had been opened near

its base, often about half way up its side, the work apparently being that of a mouse or possibly a gray squirrel, though none of the slender stems showed signs of having been broken down. The object of opening the gall was to secure the edible larva or pupa within. Several boxes of galls, acorns, *Cecropia* cocoons, etc., opened for larvae or pupae by mice, squirrels and woodpeckers, were shown. During the summer of 1930 the locality at Fort Wadsworth had been visited a number of times, and though the galls were numerous on the goldenrods, none was opened as in 1929, and many of the moths emerged in September. It was evident that the small mammal or mammals which had opened the galls in 1929 just at the right season, in July and August, were not present in 1930; perhaps they had forgotten.

A piece of agate of a pale color, presented to the Museum by its collector, Mr. Junius Bird, was shown. It had been collected on Staten Island just north of Goethal's Bridge, at a spot where the top-soil had been removed. But few pieces of agate have been found on the Island. A rather large specimen of "vari-colored jasperoid agate found as a constituent of the Drift near Rossville," is recorded in the *Proceedings, Natural Science Association of S. I.* for November 12, 1904. This specimen is also in the Museum collection.

The meeting of March 28, 1931, was held in the Public Museum.

Mr. Howard H. Cleaves reported that while on a lecture tour he had seen a whistling swan at an artificial reservoir in Reading, Penn.

Capt. Thomas I. Miller reported further concerning the blue-birds about his home at Annadale. He had made for them one house of plain wood, another one varnished, and a third painted white. The one painted white was chosen by the birds for their home. He further reported 11 fox sparrows recently about his garden, and stated that a flicker had been visiting his feeding station all winter.

Mr. Carol Stryker stated that on March 21 Mr. Milton Horn had visited the same patch of woods near Bull's Head where Mr. Ellison had heard the barred owl on February 28, and likewise heard the owl. Mr. Stryker further reported that on February 28 while in Reed's Valley, with some of the Woodcrafters, a number of young marbled salamanders had been collected. On

March 14 Mr. Wilmott, in company with Mr. Hassler of the American Museum of Natural History, collected many more.

Mr. Hans L. Stecher exhibited a Bloody Clam (*Arca pexata* Say), collected at Oakwood Beach on March 9, 1931. The specimen was still alive. The oblong shell exhibits a long row of comb-like teeth upon the hinge. This specimen had 33 ribs radiating from the umbones. The epidermis is thick, shaggy and dark brown. It is one of the few native mollusks with red blood.

Mr. William T. Davis stated that Mrs. Gertrude Seybolt, 1st St. and Oak Ave., Oakwood, had reported that the chipmunk resident in her garden had appeared on March 2. The first *Vanessa antiopa* butterfly was seen on Stuyvesant Place near the Court House, March 21, and on March 22 a *Polistes* wasp was observed flying about in Richmond village. He further stated the Coltsfoot blossoms were now very numerous on the filled in area at Tompkinsville, and that on the previous day (March 27), when it was warm and sunny, a great many honey bees, as well as a few flies, were visiting the flowers. On a previous day, when the wind was blowing quite hard, twenty-two starlings that had been feeding among the Coltsfoot plants, lit on the telegraph wires along the railroad. The wind was blowing nearly in the same direction as that of the wires, so each of the birds twisted itself about on its legs so as to face the briskly blowing wind as nearly as possible even though its legs did not point that way.

Following the high tides and wind of March 4 and 5, which caused much damage along the south shore of the Island, Capt. Thomas I. Miller, Mr. Hans L. Stecher and Mr. Davis visited Oakwood Beach to see what might be cast ashore. There were many small lobsters, also pieces of wood containing the burrowing shell, *Pholas truncata*. There were also many clams and other mollusks on the shore upon which the Herring gulls had dined liberally and then thrown up undigested pellets of shells, crab claws, etc. (A separate note is to be made on Shell-Pellets.) The high tides also cut into the cliffs at Wolfe's Pond, and at their base there was found on March 26, a deposit of black sand to the depth, in some places, of more than an inch. Some of the sand is magnetic. It is usually found in but very thin deposits on the up-beach. However on the occasion mentioned the black sand could be scooped up by the handful.

Mr. Joseph F. Burke had tested the sand from Wolfe's Pond,

Staten Island, using a blow pipe and salt of phosphorus bead, at the same time testing another black material of similar appearance, labelled "Chromite, Staten Island" from the collection of James Walker, Brooklyn. In each case only the material which adhered to a magnet was tested. The beads, which Mr. Burke exhibited, showed characteristic colors, in the case of the magnetic content of the sand collected by Mr. Davis, this was the brown of magnetite and of the magnetic portion of the Walker material, the fine emerald green of chromite.

Mr. W. Anderson showed about 100 lantern slides that he had prepared, many of them very beautiful. They included scenery, flowers, caterpillars, etc., encountered in his excursions afield often with Mr. Raymond H. Torrey, who was also present at the meeting.

The meeting of April 25, 1931, was held in the Public Museum.

Mr. Charles W. Long reported on a number of lantern slides donated to the Institute by Capt. T. I. Miller.

Mr. George B. Wilcott exhibited some of the young marbled salamanders (*Ambystoma opacum*), which he collected at Reed's Valley, S. I., on March 12, 1931. He had them all in one tank at first, but when they began to bite off each other's legs, he gave them "solitary confinement," as he expressed it. He then observed the progress made by each individual in the regrowth of the missing parts.

Mr. Wm. T. Davis stated that the record for the marbled salamander in the list of the "Reptiles and Batrachians of Staten Island," printed in the Proc. Natural Science Association, October, 1882, was based on a specimen collected near the upper end of Hart Avenue, and also on the authority of Nicholas Pike, who had found the species on the Island many years ago. Mr. Davis showed a living specimen of *Ambystoma opacum* that had been given to him by Alanson Skinner in the spring of 1925. It, with two others, was collected at Breakneck, New Jersey, when about 2 and one quarter inches in length, while at present the survivor is four and one eighth inches long. For the past six years it has been fed on raw meat.

Mr. Carlton Beil and Elwood Logan reported the dragonfly *Anax junius* seen at a small pond near Willow Brook, April 11, 1931.

Mrs. Thomas I. Miller stated that about 400 varieties of *Narissus* had been named, and showed several that she had grown in her garden.

Captain Thomas I. Miller showed a number of diatoms found in peat moss collected near Old Bridge, New Jersey. He pointed out the importance of using the microscope whenever possible in Nature work.

Mrs. Katharine Dorr reported her first night-hawk for this season, seen April 25.

A report from Mr. Howard H. Cleaves was read, stating that on April 22, he had seen six Wilson or Jack Snipe, one lesser yellow legs and a barn swallow at the Mt. Loretto pond, and on the same date two fish hawks, one carrying a partly devoured fish, and a kingfisher, at Wolfe's Pond.

Mr. Hans L. Stecher gave some of his observations on the tropical Guppy or Rainbow-fish. This is a viviparous fish, quite small, the female larger than the male, but the latter having the rainbow colors. They are quite easily kept and low in price, which accounts for their being so common in aquaria. Mr. Stecher explained that they did not prosper in city water fresh from the tap, but that they did well in balanced aquaria. On April 23 he had tried feeding them with raw beef, holding it with tweezers below the surface of the water. Soon one of the small fish investigated the meat and took a few nips, which attracted the others, each one biting off tiny bits. This may be of interest to those who keep Guppies in their aquaria; beef can be substituted for fish food and be a regular source of food for them.

Mr. Joseph F. Burke showed the recently published book on "The Minerals of New York City and Its Environs," by James H. Manchester. There are 127 numbered illustrations, of minerals, mines, quarries, and field trips of the New York Mineralogical Club. One of the plates shows the members of the club at the Serpentine deposit, Dongan Hills, Staten Island, 1921, and another photograph taken the same day shows the party at a Limonite deposit in the same hills.

Mr. Wm. T. Davis read a letter from Dr. James P. Chapin written on a dried leaf from the forest, and dated Lukolela, Belgian Congo, January 31, 1931. He mentioned that cicadas were rather plentiful and came to the lantern at night. "One evening not long ago twelve of the very large ones with blackish-

red hind wings came into the house." A photograph of the cicada accompanied the letter.

Mr. Davis stated that the dragonfly *Anax junius* had been seen about the pond on the southerly side of the Willow Brook Road nearly opposite the entrance to the old Christopher House farm, on April 13; at Wood Row Road swamp on April 17, and at Lambert's Lane Pond on April 19. On the last named date, the first cabbage butterfly had been seen at Watchogue. Also on the afternoon of April 19 about two P. M., he, Everett C. Lerch and James Hackett, had counted about 50 herring gulls at their usual inland roosting place on Main Creek about a mile above the Island of Meadow, at the mouth of Fresh Kills. This roost is a much less exposed situation than the sand bars at Great Kills. The Periwinkle, *Littorina littorea*, mentioned in the minutes of January 24, 1931, that has been kept since November 23, 1930, in a small corked bottle with a piece of green *Ulva* on which it has fed, was again shown. After five months, most of the *Ulva* has been eaten by the *Littorina* and the growth of the remainder retarded from lack of fresh sea water. Meanwhile a considerable growth of algæ has started on the shell of the Periwinkle, which owing to its position can not be eaten by the animal.

Mr. Davis stated that the Hop Horn-beam was but seldom met with in the wooded portions of the Island, and that most of the trees known, occurred in the woods near New Springville, or in East Watchogue Swamp near Merrill Ave. At the latter place the trunk of a large, dead *Ostrya*, 2 feet 9 inches in circumference was discovered on June 13, 1927, and also a smaller living tree. On April 19 of this year it was found that the small one had been cut down, and the large one was lying on the ground. Five additional small trees that had been previously overlooked were found in the same woods.¹ There is a large *Ostrya*, 2 feet 8 inches in circumference standing near where Corson's Brook crosses the Forest Hill Road. Two other trees in the same woods measure 2 feet 4 inches, and 1 foot 9 inches in circumference. Another uncommon tree on the Island is the River or Red Birch (*Betula nigra*). On April 19 the large tree on the bank of the one-time Crocheron Mill Pond near Sign's Road was measured

¹ On August 2, 1931, two rather large *Ostrya* were found in this woods, but at some distance from those mentioned.

and found to be 11 feet in circumference. Twenty-two lesser trees of this species were counted in the immediate vicinity.

Some woodland plants were received from Miss Jeanette Nichol, from Pennsylvania on April 8, and used in an arrangement of a Miniature Garden by Mr. Hans L. Stecher.

The meeting on Friday, May 22, 1931, was held in the Public Museum.

Mr. James Hackett reported seeing a red-headed woodpecker near Arlington, Staten Island.

Mr. Charles W. Leng stated that Mr. Frank Hankinson, District Superintendent of Schools for Richmond Borough, had heard a whip-poor-will at West New Brighton.

Mr. Lester S. Thomas stated that he had tried the effect of the human voice on some muskrats in New Jersey. They were not disturbed by even loud calls, but waving his handkerchief would alarm them, and they would disappear immediately.

Miss Katharine S. Seaman exhibited the stem of an asparagus plant which had grown through a branch, and assumed the posture of a snake which it simulated very strikingly.

Mr. W. Anderson showed a photograph of a dandelion that had four flower heads on a single stem; also remarked on the unusual bright orange-red color of the red eft salamanders found at High Point, New Jersey, in comparison with the less vivid colors of specimens from some other localities.

Mr. George B. Wilmott presented a small eel collected in Reed's Valley brook to the Museum Zoo. He further reported that his young *Amblystoma opacum* from Reed's Valley had lost their gills, while the four young marbled salamanders found recently in the same valley showed no such progress.

Mr. Carlton Beil gave a very good imitation of the song of Fowler's toad.

Mr. Hans L. Stecher exhibited a green tiger beetle, *Cicindela sex-guttata*, which he had caught on Gryme's Hill, May 16. The beetle, which had caught one of the larger species of ants, was put in a vial with the intention of keeping it alive for observation in a small terrarium. During the whole process of capture with a handkerchief and placing it into the vial, the tiger beetle did not loosen its grip on the ant, but continued to devour the ant in spite of all the inconveniences. Placed in the terrarium, it took a piece

of beef of the size of its own head every day thereafter. At sunset, it retired under a crevice of a stone, being out next morning for his share of beef.

Mr. Joseph F. Burke reported seeing a muskrat swimming in the pond near Eltingville Station on Sunday, May 17, 1931, and later in the afternoon, the same, or another, muskrat in a different section of the same pond, which is quite a large one after the heavy rains. Referring to the report made by Mr. Davis, at a recent meeting, on the Magnetic Sand, at Wolfe's Pond, Mr. Burke read the following: "The type of ore known as Magnetic Sands is produced by a combination of weathering and mechanical concentration. The former process does not cause a chemical alteration of the magnetite in primary or igneous rocks, but by decomposing the surrounding minerals it sets the magnetite free as grains. As the rock disintegrates these grains may either be washed free of impurities by wave action or concentrated during transportation in water, due to their great density, hardness, and chemical stability." Quoted from *Prospecting in Canada*, Economic Geology Series No. 7; Canada Department of Mines, p. 138.

Mr. Burke showed specimens of two curious rocks, named after animals. The first a white rock with black spots, from Charlotte, North Carolina, is called Leopardite, and the second which is remarkably striped is the "Zebra Rock" from near Argyla Station, Western Australia. He exhibited a spinneret, for the spinning of rayon, made from the metal Tantalum, which can be used in place of those made of Platinum and is much cheaper. The holes in it are exceedingly small and if an electric light is observed through them small rings of diffraction colors can be observed. These diffraction colors were better observed through two sieves of 100 and 120 mesh which were passed around.

Mr. Wm. T. Davis stated that he had visited Cameron's Pond at Grasmere with the New York Microscopical Society on May 10, and while searching for pond life, had seen a coot, a little green heron, a fish hawk, and a fairly large hawk which made an effort to capture one of the numerous barn swallows that were flying over the pond. It was a very sudden proceeding, all over in a flash, and apparently the hawk was unsuccessful in its effort. For about fifteen minutes there were no swallows flying over the

pond. Mud-minnows (*Umbra pigmaea* De Kay) occur in Cameron's Pond and Gottschalk's Pond, as they did fifty years ago, and are good aquarium fish. On May 15 he and Mr. Cleaves had seen a Wilson's Snipe at the Mt. Loretto pond, also a greater yellow-legs. This pond attracts many birds. On May 17 with Mr. Cleaves and Wm. F. Drescher, a great many birds were seen at Oakwood Beach, near Richmond, and at New Springville. This was about the high-tide of bird migration for this year and Mr. Cleaves had enumerated 61 species. The beach at Oakwood continues to be one of the best localities for shore birds within the City of New York, and on May 22, Dr. Wiegmann and Mr. Davis had seen the Canada Goose which has been on the peat beds and sand bars for several days. There are a considerable number of nesting bobolinks along the edge of the meadows at Oakwood, several at Richmond, as well as other localities on the Island. One male bobolink was seen picking at a head of dandelion seeds. Where some lots had been laid out in a real estate development between New Dorp and Oakwood, a small killdeer plover, recently from the egg, had been seen by Dr. Wiegmann and Mr. Davis on May 22. The parent birds squatted among the grass in many places in an effort to attract attention, while their offspring instead of hiding kept running about. He made but poor progress where the vegetation was thick, and might easily have been picked up, but on the concrete walks he was quite a sprinter and his little legs and tiny self made great progress. The great resemblance in markings of the downy young of the killdeer to its parents is of interest. Mr. Davis further stated that he had been called upon by several Chinamen who desired some of the terminal branches of the matrimony vine growing luxuriantly about his home. They strip off the leaves which are used as spinach, and the dried leaves when powdered and boiled, are considered by some to have medicinal value. One man stated that the medicine was "good for Chinamen but no good for Americans."

A very large female crayfish, *Cambarus bartoni*, three and three-eighths inches in length, was shown. It had been collected in the Willow Brook region of the Island by Robert Sleight, April 18, 1931, and presented to the Museum. A male one and seven-eighths inches in length, was collected at the same time.

Literature Relating to Staten Island

The North American Species of *Hymenorus* (Coleoptera) by H. C. Fall. Trans. Am. Ent. Soc., LVII, 161-247 (1931).

On page 179 the species *Hymenorus picipennis*, described in 1891 from Michigan, is recorded from Staten Island, constituting an addition to the "List of the Coleoptera of Staten Island" published in these Proceedings in 1924, vol. II, 1-82.

Diary of William Dunlap, 1786 to 1834. The New York Historical Society Collections 1929, 1930, and 1931.

In these three volumes there are a number of references to Staten Island's ferries, taverns, and hunting during the years between 1786 and 1798. William Dunlap, who was a dramatist, theatrical manager, painter, critic, novelist, and historian, lived during those years in New York but had also a farm at Perth Amboy which he visited frequently, often crossing Staten Island on his journeys. Thus on page 67 we find "We left N: Y: a quarter before 4, found Mr Van Duzer's Waggon in waiting for us, and proceeded very pleasantly over Staten Island, in the coolest part of y^e day on a good road lately mended. The blackberry bushes are loaded with blossoms: the farmers complain that their maize has been taken up by the birds before it had time to sprout. My expences are 5/ ferryage to Staten Island. 16/ stage hire to Amboy ferry. 3/ ferryage to Amboy: and 2/ portorage. total Ds: 3.25."

The return trip was made four days later, June 14, 1797, and reads, "About 7 OClock we left Amboy, were detain'd untill past 8 by Butler at the opposite ferry: after a pleasant ride arrive at Van Duzer's & get home at half past 1 OClock."

His visits to Perth Amboy were not always made by way of Staten Island, nor did he always use Van Duzer's ferry. On July 6, 1797, for instance, he made the following entry in his diary, "About 9 O'Clock left New York and reached the Kills about 12 when we landed on the Staten Island side at one Buskirk's, here we all sate down under an Apple tree & John read in Hume, the 1st Vol: of which I had brought in my pocket: about 2 we left Staten Island & arrived at E point past 4 suffering from the heat."

Sometimes in later years his journeys across or on the Island were made on foot with his gun. Thus on September 25, 1797, he wrote: "I crossed Staten Island on foot to Amboy with my gun, shot one Quail & one Snipe"; and on August 14, "After breakfast go with Dr Wright the physician of the place over to Staten Island to shoot Snipe; return about 4 OC." In 1798 there are similar entries, for example on October 1, "On Staten Island, hunting Quails. I kill four, 3 of them younger than I thought any were at this season. Blue Jays are in large flocks. The quantity of Red & black butterflies is so great as to suggest the probab[il]ity of an uncommon number of catterpillars for next year." Again on October 16, "Out before breakfast with my Gun. Walk wth B & J: to Princs Bay, Staten Island. Afternoon attended as a Pall-bearer at y^e funeral of Mrs Smyth . . . R[ichard Channing] Moore the parson preached a funeral sermon. A mass of common place sentiments, scriptural quotations, & affected attempts at the pathetic."

Records of Meetings

CONDENSED REPORT OF INSTITUTE MEETINGS

Saturday, October 18, 1930.—Mrs. John B. Handley-Greaves described the journeys she and Mr. Greaves had made "To Europe and Iceland by Airship," including also their visit to Oberammergau. These journeys were made in the "Graf Zeppelin."

Saturday, November 15, 1930.—Mr. Frank W. Skinner described "The Great Hudson River Bridge and the World's Longest Spans," with lantern slide illustrations.

Saturday, December 20, 1930.—Mr. W. L. Calver spoke of "Some Discoveries in Revolutionary Camps, with particular reference to Staten Island."

Saturday, January 17, 1931.—Mr. Gardner Wells spoke of "Some Lands of North Africa," including Morocco, Tunis and Egypt, illustrated by motion pictures personally photographed.

Saturday, February 21, 1931.—Mr. Edward Avis, violinist and bird-mimic, presented "Birdland Echoes," illustrated by lantern slides, and by imitations of bird songs.

Saturday, March 21, 1931.—Microscopical Exhibition, including the following subjects:

Blue-green Alga. Sphagnum Moss. Lava under Polarized Light.—B. R. Abbott.

Magnetic Sand, Montauk, L. I. Wing of Dragonfly, *Agrion pulchellum*. Gold Crystals, Manhattan, Nevada.—Joseph F. Burke.

Eye and Mouth-parts of Horsefly. *Ptinella*, a very small beetle from Staten Island. Stained section of an Earth Worm.—Wm. T. Davis.

Egg of 17-year Locust. A brilliantly colored Tiger Beetle from Staten Island. Fungus-growing Ant from Long Island.—Wm. T. Davis.

One of the smallest Beetles. Sculpture of Tiger Beetle Wing. Chickweed.—Charles W. Leng.

Section of Maple Twig, stained. Young Whelks from egg case. Lord's Prayer in a pinhole.—Agnes Vinton Miller.

Cinnabar Crystals. Diamond Back Beetle. Opal in Matrix.—Thomas I. Miller.

Tourmaline Inclusions in Mica. Ephedrine (Crystalline Alkaloid from China). Trichomes from Leaf of *Shepherdia*.—(These three exhibits selected to show the diverse use of Polarized Light in microscopy.)—George H. Needham.

Marine Hydroid, *Pennaria carolinii*. Eggs of Butterflies and Moths. Female mosquito, *Aedes cantator*.—John M. Sheridan.

eggs of a Pond Snail (*Limnaea*). Water Mites. Eggs of Channelled Whelk (*Fulgur canaliculata*).—Hans L. Stecher.

Crystals of Chemical Substances (three exhibits).—Frank A. Strauss. Human Skin, polarized. Fly's Foot. Scales from Wing of a Butterfly (Dark Field).—George B. Wilmott.

Photomicrographs.—Philip O. Gravelle, W. Faltoute Munn, Thomas I. Miller.

The preparation of wood for examination under the microscope.—Everett C. Lerch.

Saturday, April 18, 1931.—Prof. Charles A. Philhower spoke on "The Indians of Staten Island and Vicinity," illustrating his remarks with specimens from his personal collection.

Saturday, May 16, 1931.—The annual reports of the Board of Trustees, and of the Woman's Auxiliary were presented.

The following trustees were reelected, Charles A. Ingalls, Robert L. Gardner, Edna L. Hoffmeyer, T. Livingstone Kennedy, Cornelius Kolff, Frank A. Strauss, and Mary Otis Willcox. The vacancy caused by the death of Louis L. Tribus was filled by the election of H. Howard Henderson Cleaves, formerly one of the curators of the Museum.

Mr. Charles L. Pollard made an address entitled "A Field in British Columbia," illustrated with lantern slides and specimens.

In addition to the announced program, other matters presented at the Institute meetings during the year included specimens of *Amblyoma punctata*, Burr Fish, Sea Anemone, Great Horned Owl, Peat, *atura celtis*, King Rail, all from Staten Island; also a drawing of Old Bank Light, Staten Island newspapers of 1868, and a Life of Thomas Say referring to his widow having been the Institute's first honorary member.

MEETINGS OF SECTIONS

SECTION OF HISTORICAL RESEARCH

George W. Tuttle, chairman.

June 30, 1930.—In conjunction with the D. A. R., a meeting was held in Port Richmond Park to unveil a tablet commemorating Sullivan's Attack on August 22, 1777; Mr. Leng described the events which made the occasion memorable.

December 20, 1930.—A joint meeting of the Institute and the Staten Island Historical Society was addressed by Mr. W. L. Calver on "evolutionary Camp Sites with particular reference to Staten Island."

March 25, 1931.—At a meeting of the Woman's Auxiliary, Miss Catherine Deveraux Blake recounted her personal impressions of "Russia," obtained during a long visit to that country last summer.

Lectures for children were given in the museum on November 21, 1930, The First Thanksgiving; February 13, 1931, Abraham Lincoln;

February 20, 1931, George Washington; April 17, 1931, Staten Island History. Also on March 6, 1931, at P. S. 12, on Staten Island History.

Members of this section participated in meetings of the Staten Island Historical Society held February 22, 1931, at the residence of Mr. Cornelius G. Kolff, and on May 18, 1931, at the Stillwell-Perine House. At the February meeting it was announced that Mr. Wm. T. Davis, who had previously paid the mortgage on the Stillwell-Perine House, had established a Permanent Fund for its maintenance, to which fund additions may be made with assurance of permanence as it will be administered by the Corn Exchange Bank Trust Company.

Among the gifts to the museum, in which the members of this section are especially interested, may be mentioned the century-old examples of silverware inherited by Mr. Wm. T. Davis from his ancestors of the Lake, Johnson, Oakley, and Thompson families; the silver coffee urn bequeathed by the late Samuel R. Brick; an engraving of 1850 entitled "Union" showing portraits of prominent statesmen of that period, the gift of Mr. Nelson Mersereau; a portrait of George Washington, formerly in the Lockman family, the gift of Mrs. C. Schrieb, and a History of New Jersey in five volumes, the gift of Lewis Historical Publishing Co.

The publication of the remainder of Book F of "Anthon's Notes" was made in volume V, parts 2-4, of the Proceedings, issued March 3, 1931. The binding of the first two volumes of "Staten Island and Its People" was completed early in May. Mr. Davis examined these two volumes and their illustrations on May 7.

The activity in historical matters on Staten Island during the year has been shown in the numerous meetings of the D. A. R. held in the museum, the Britton Cottage, the Conference House, the Stillwell-Perine House (where afternoon teas were given on Saturdays during the summer of 1930), and elsewhere. Also by the articles on old families, written by Miss Anne Elizabeth Flynn, which appeared in the "Staten Island Advance," and the illustrated contributions of Daniel C. Rumbold, Jr., in the same newspaper.

It is to be noted, with pleasure, that Mrs. Wm. H. Pouch, regent of Richmond County Chapter, D. A. R., and especially active in promoting its historical activities, has been elected a vice-president general of the national association. With regret, however, it is necessary to record the burning of five historic structures, Bogert House March 8, Seitz House April 14, Barret Manor April 15, Benedict House April 19, Cameron House April 30, and the demolition during the past year of two more, the Black Horse Tavern and Bodine's Inn.

SECTION OF NATURAL SCIENCE

Charles W. Leng, chairman.

The members of this section have held no formal meeting, but as members of the Bird Club, the Nature Club, the Woodcraft League, and the newly formed Attic Club, they have been active.

The developments of the year have been the extension of the exhibits in the main exhibition hall, and the progress of the Attic Club. Among the exhibits added are cases of marine invertebrates, of reptiles and batrachia, of mammals, of shells and corals, and of galls. Individual additions have been made to previously existing cases of birds, minerals, sea shore life, geology and insects. Dr. N. L. Britton and Dr. Arthur Hollick have made important additions to the herbarium. Captain Thomas I. Miller has added, among many gifts, *Pectinatella magnifica* to our collections. Mr. Wm. T. Davis has added *Ulcyonidium mytili*, besides the entire collection of galls. Mr. Hans L. Stecher has greatly increased our exhibits of living animals and plants; in salt water aquaria he has been able to place on exhibition such marine forms as *Caprella geometrica* and *Mysis sternolepis*. A pair of Ring Neck Pheasants, contributed by Mr. Harrison Johnson, have raised their young successfully.

The Attic Club has resulted from the facilities provided on our topmost floor for safe storage of collections and their quiet study by night as well as day. On Monday evenings during the month of March a small group met in the attic of the Museum for the purpose of working on the "Determination of Minerals." The group was fortunate in having one of the trustees, Dr. Frank A. Strauss, who is a chemist by profession, in charge and under his leadership the meetings were quite successful in accomplishing their purpose. Among those who attended were Mr. John M. Sheridan, Mr. George H. Needham, Mr. Charles Viedt and Mr. Joseph F. Burke. Capt. Thomas I. Miller, while unable to attend, contributed both information and material which were of great assistance to the group. On other occasions scientific research was carried on by Mr. B. R. Abbott, Mr. H. H. Fleaves, Dr. Philip Dowell, Dr. A. J. Grout, Mr. E. C. Lerch, Mr. C. W. Pollard, Mr. H. L. Stecher, and George Willmot. Visitors from distant places were also privileged to enjoy its advantages; one of these, Miss Helen M. Hinchey, of the University of Rochester, spent several days studying the collection of Orthoptera.

The description of the fossil palinurid, *Linuparus kleinfelderi*, found near Arrochar by Mr. Walter Kleinfelder, and of which the types may be seen in the museum, was one of the important events of the year. The description was written by Miss Mary J. Rathbun, of the U. S. National Museum, and was published in our Proceedings, where previously photographs by Mr. Wm. T. Davis had appeared. A plaster cast of the type specimen is in the collection of the American Museum of Natural History.

An event of the year was the publication of the following:

APPRECIATION OF DR. AND MRS. BRITTON

THE INTER-AMERICAN CONFERENCE ON AGRICULTURE,

Considering with a deep sense of appreciation and fully recognizing valuable services contributed by Dr. and Mrs. Nathaniel Lord Britton,

retired director and bryologist, respectively, of The New York Botanical Garden, as explorers and distinguished students of the West Indian native flora and their inspiration and leadership in the research problems of the tropics,

Resolves: To record in the minutes of this Conference a recognition of their important services and that a copy of this resolution be sent to The New York Botanical Garden.

(Approved September 19, 1930.)

A true copy:

LEON M. ESTABROOK,
Secretary General.

SECTION OF ART

Robert Waterman Gardner, Honorary Curator.

Mrs. O. C. Wigand, chairman Art Loan Committee.

Agnes C. Nash, Museum Assistant in Art.

On September 17, 1930, our new art gallery was opened with a Black and White Exhibit. Its walls, plastered and painted in a neutral tint with stippled surface, make a satisfactory background for exhibits. Photographs, Etchings, Prints, etc., especially featuring Staten Island, showed to advantage by the overhead lighting system adopted by Mr. Gardner in consultation with Mrs. Wigand. On October 22, the Fall Exhibit of Staten Island Painters and Sculptors was opened at a private view and reception of the Woman's Auxiliary, Mrs. John B. Handley-Greaves presiding. This was followed on December 8 by an exhibit of Arts and Crafts, on January 6 by an exhibit of Posters, on February 3 by an exhibit of Mrs. Muriel Mattocks Cleaves' Illustrations of Rubiayat, of Omar Khayyam, which attracted much favorable comment, and was continued through March. On April 4 an exhibit of paintings by Peggy Maguire, largely devoted to Mexican Scenes, was opened, and was followed early in May by an exhibit of paintings by Arthur, Ernest, Henrietta, and Marjorie Beaumont. These exhibits were all under the direction of the Art Loan Committee.

Other exhibits, shown in the exhibition halls and arranged by Miss Pollard with the assistance of Miss Nash, were small sculptures in white soap, July 21 to August 16, 1930, and again in April, 1931, the latter being entirely by Staten Island artists; Old Silver in April and May, including recent gifts by Mr. Wm. T. Davis and Estate of Samuel R. Brick, and the Havemeyer collection of Roman and Etruscan Art.

Lectures were given on January 28, 1931, on the paintings in the Frick gallery, and on February 25 by Mr. Huger Elliott, of the Metropolitan Museum of Art.

Classes in drawing under the direction of Miss Nash were reopened on September 6, 1930, the summer months having been used for in-

struction in outdoor sketching. On December 3, 1930, classes in soap sculpture for children and adults were commenced, in conducting which Miss Nash was assisted by Miss Hilda Hayward and Mrs. Cleaves. The pupils in these classes won many of the prizes given by Procter and Gamble after the work had been judged by Chester A. Cole, Elsa Knauth, Pietro G. Ghiloni, Anita Parkhurst, Frank Hanson, James Whitford, and Emma L. R. White, the jury of awards. Among the accessions received have been a large number of mounted photographs from Mrs. C. W. Hunt, a number of valuable reproductions of works of art from Mrs. A. W. Hoffmeyer, an original drawing of Red Bank Light by Helen E. Cleaves, a silver coffee urn bequeathed to the Institute by the late Samuel R. Brick, grandson of the engineer of the gas works, to whom the urn belonged, and a silver service donated by Mr. Wm. T. Davis inherited from his ancestors, William and Mary Lake, together with large silver table spoons inherited from his great-grandfather, Anthony Johnson.

SECTION OF BELLES LETTRES

A. W. Callisen, president; Mrs. H. H. Granger, secretary.

The meetings of this section have usually been held at the homes of its members on Sunday afternoons, and have been devoted to dramatic and literary subjects. This program was interrupted in February by a dinner with appropriate features. Among the other meetings were:

September 28, 1930.—At the residence of Miss Maud Morgan. A Greek play "Echo" was presented by Mrs. Cecil Grimes and others, with outdoor setting, followed by a harp recital by Miss Morgan.

October 26, 1930.—At the residence of Mr. and Miss Weitling. Miss Catherine Grey spoke on "Reminiscences of Stage Life."

November 30, 1930.—At the residence of Mr. and Mrs. Harry Kuhn. Miss Alice Lawrence spoke on "Staten Island Indian Tribes."

January 25, 1931.—At the residence of Mr. and Mrs. Herman H. Granger. The program was French Canadian themes, exemplified by songs and stories.

February 27, 1931.—Annual dinner, Mr. Callisen presiding.

March 29, 1931.—At the residence of Mr. and Mrs. Adolph W. Callisen.

April 25, 1931.—At the studio of David Grove.

May 24, 1931.—At the residence of Mr. and Mrs. Edward D. Gunnell.

At each meeting the spontaneous contributions, as well as the announced feature, have made the programs of interest. Among the talented members of the section who have thus assisted in its success have been Miss Mabel Abbott, author of short stories; Lester L. Callen, whose "Soul of Ireland" was the feature of the meeting in May, 1930; John J. Carniol, playwright; William T. Davis, historian and

naturalist; Leon Daniels, poet; Willard Grimes; Mrs. David Grimes; Bella Hoffman; Charles Kay Kenny; Cornelius G. Kolff; Edith Sinclair; Maud Sheerer; William and Margaret Sunderman; Frank Vreeland, and others interested in the field cultivated by this section.

WOMEN'S AUXILIARY

Mrs. John B. Handley-Greaves, president. Mrs. Charles L. Schaeffer, recording secretary. Other officers of the year were Mrs. Harry F. Towle, Mrs. Hermann Lindheimer, Mrs. Anton W. Hoffmeyer, vice-presidents; Mrs. George W. Batz, treasurer; Mrs. John B. Prest, corresponding secretary, assisted in part by Mrs. Willard Grimes. Meetings were held as follows:

May 28, 1930.—Election of officers.

October 22, 1930.—Reception and opening of Fall Exhibit of Staten Island Painters.

November 19, 1930.—"Iceland" seen from Land and Water by Mrs. H. F. Towle, and from the Air by Mrs. John B. Handley-Greaves.

December 9, 1930.—Card Party managed by Mrs. Towle for the benefit of the Building Fund.

January 28, 1931.—Miss Agnes C. Nash spoke with lantern slide illustrations on "Pictures in the Frick Gallery."

February 25, 1931.—Mr. Huger Elliott, of the Metropolitan Museum of Art, was the speaker.

March 25, 1931.—Miss Catherine Deveraux Blake spoke of her "Personal Experiences in Russia."

April 27, 1931.—Annual Luncheon. Mrs. Etta Hamilton Morris, president New York Federation of Music Clubs, guest speaker.

The annual report of the Women's Auxiliary to the Board of Trustees was prepared by Mrs. Charles L. Schaeffer, recording secretary, and summarized its activities as follows:

Annual Report of the Women's Auxiliary of the Staten Island Institute of Arts and Sciences, to the Board of Directors and Trustees:

The Women's Auxiliary has enjoyed a year of interesting and constructive work, creating and stimulating the interest of the community at large, in the work of the Museum.

We feel that our efforts have been crowned with some measure of success, by the acquisition of a number of new members and by the large attendance at our morning lectures which we have held each month.

We have held our regular monthly Board meetings, at which business pertinent to the Auxiliary and the Museum only has been transacted.

We have held our Annual Art Exhibit, Annual Card Party and Luncheon, all of which being successful socially, as was proven by the attendance of both men and women of prominence on the Island; besides many just as worthy though less prominent, but not less important people.

Our efficient and faithful President, Mrs. Greaves, has been present at all meetings, lectures and functions.

We have pledged \$150.00 to the fund for finishing the upstairs ladies room.

We have also contributed toward buying materials for Miss Nash's Art Class.

We thank Mr. Leng and each and every one officially connected with the Museum for their kindly interest and cooperation and for their unfailing courtesy at all times.

It is our privilege to serve the Museum and we remain, yours to command.

Respectfully submitted,

IRENE SCHAEFER,
Recording Secretary.

HOSPITALITY COMMITTEES

The custom of closing the various meetings with light refreshments, and a social gathering of members and visitors, has been continued. Mrs. H. A. Witte, chairman of the Institute Committee, and Mrs. A. A. Rottmann, chairman of the Auxiliary Committee, have had the assistance during the year of Mrs. A. W. Hoffmeyer, Mrs. Leonal W. Hoffmeyer, Mrs. Charles W. Leng, Mrs. Carol Stryker, Miss Agnes L. Pollard, and others.

EDUCATIONAL PROGRAM

The assistance received from the Carnegie Corporation, and the generosity of several of our members, have made it possible to enlarge the educational program in many directions.

Twelve lectures, which may be classed as educational, have been given in the museum for adults.

Thirty-two similar lectures have been given in the museum for children.

The lantern slide collection, used in such lectures has been enlarged by the purchase of zoological and art subjects, and by the gift of about 2000 slides most of which are geographical in character. Lantern slides have been loaned to teachers, and have been adapted to the syllabus supplied by teachers.

Classes for children in drawing and for adults as well as children in soap sculpture have been operated continuously. Special instruction in blowpipe analysis was an interesting development of the "Attic Club."

Cooperation with schools included lectures given at various public and private schools by the director and the assistant curator, and visits to the museum from such schools. Among the schools involved were P. S. 11, 12, 14, 16, and 17; Curtis High School, Willard-Mundorf,

Arden, Staten Island Academy, Vacation Bible School, St. Joseph's Academy, Temple Beth-Emma of Brooklyn, and Teachers College of Columbia University. Some new and gratifying incidents of this cooperation with schools were the interest displayed by visitors in the living animals and plants cared for by Mr. Hans L. Stecher, and the good use made by Miss Edna Peterson of loaned material in P. S. 40.

Cooperation with Daughters of the American Revolution in matters historical and genealogical has been maintained; also with Boy Scouts in tests on natural science honors.

The educational features of the Woodcraft League have been extended to Tottenville, and have resulted there, as well as in the museum, in several honors being gained by the young people, who also carried off a liberal share of the prizes awarded in the American Museum exhibition of the School Nature League. Outdoor instruction in natural science has continued to be a feature of the Woodcraft program; and is also a feature of the monthly walks of the Staten Island Bird Club. Through the enterprise of Miss Ruth B. Fisher, of Curtis High School, outdoor instruction in Staten Island Geology has been combined with inspection of the museum exhibits.

Other educational features inaugurated during the year have been trips to the art museums of New York and Brooklyn, conducted by Miss Nash, and to the American Museum of Natural History, conducted by Mrs. P. A. Bonney. Individual docent service has been performed by the director and members of the staff, materially increased by the addition, due to the generosity of Mr. Davis, of Mr. Stecher to the staff.

AFFILIATED SOCIETIES

STATEN ISLAND BIRD CLUB

Howard Henderson Cleaves, president; Mr. William T. Davis, Mrs. H. M. Trench, Mrs. L. A. Dreyfus, Dr. Frank A. Strauss, vice-presidents; Charles W. Leng, secretary-treasurer; Carol Stryker, field-secretary.

Monthly walks were taken for the study of birds and natural history in general, usually attended by thirty or more persons. The walks ended in several instances by visits at the homes of members. Thus in May, 1930, the club was entertained by Mrs. Christopher Steadman, in June by Mrs. M. A. Seery, in November by Mrs. C. J. Waite, and in May, 1931, by Mr. Cornelius G. Kolff.

Winter feeding stations were maintained in Moravian Cemetery, and at the residences of Mrs. Rottmann, Mrs. Trench, and Miss E. Smith. The members of the Woodcraft League cooperated by preparing the feed and installing it at the stations under the direction of the field-secretary.

Lectures were given by the field-secretary in the museum, at public schools, and for visiting groups.

Tests were given to Boy Scouts, Camp Fire Girls, and Woodcraft League members, studying for merit badges or other honors.

Special field trips with small groups for intensive study were made. Those who thus visited Oakwood Beach in May, 1931, at the time of shore bird migration, were rewarded by the sight of many species including young killdeer. The Christmas Bird Census was taken by Howard H. Cleaves, Carol Stryker, and Harold K. Decker, who between 7 A. M. and 5 P. M. on December 28, 1930, saw 41 species and 2348 individual birds, as printed in "Bird Lore."

The club has during the year continued its contributions to the National Association of Audubon Societies, and to the collections of the public museum, the latter including the mounting of a blue and yellow macaw, a king rail, and a young weasel.

At the annual meeting on May 27, 1931, the speaker was Mr. T. Donald Carter, of the American Museum of Natural History, who described his adventures in traveling "Through the Brazilian Wilderness," in a successful search for a rare honey-creeper of the genus *Diglossa*.

HORTICULTURAL SOCIETY OF STATEN ISLAND

Fred S. Heal, president; Miss Alice Shea, secretary, succeeded by Frank P. Baumann.

Meetings were held in the museum on May 14, September 10, November 12, 1930, and March 11, 1931.

Illustrated lectures were given by Dr. Forman T. McLean, April 8, 1931, on "Floral Displays in the New York Botanical Garden," and on May 12, 1931, on "Fertilizers." The illustrations on the latter occasion were packages of various fertilizers with a lucid explanation of the value of each.

Five flower shows were given in the museum, viz:

Iris Show, May 24, 1930, under the management of Mrs. F. A. Holder-Egger.

Rose Show, June 7, 1930, under the management of Mrs. Homer E. Marshall.

Gladiolus Show, August 16, 1930, under the management of Mr. Frank S. Cooke.

Dahlia Show, September 27, 1930, under the management of Mr. John Rader.

Chrysanthemum Show, November 1, 1930, under the management of Mr. Frank P. Baumann.

Each of these shows was open, free to the public, for three consecutive days; prizes were awarded for the best flowers, after being judged by experts, among whom were Mr. Otto J. Lundt, arboriculturist of the department of parks; Dr. Forman T. McLean, of the New York Botanical Garden; Mr. W. H. Waite, well-known Dahlia expert, and Mr. T. A. Weston, editor of the Florists' Exchange.

Among those who, in addition to the officers, have contributed to the success of these flower shows, are Mrs. Walter Booth, Mrs. Wm. Birmingham, R. C. Benedict, H. Backofen, Bergen Gardens, Arthur Cavenagh, Joel A. Cooley, Mrs. Fred H. Davison, F. D. Drake, Mrs. Viola A. Fuller, Mr. and Mrs. Morris A. Lunn, Mrs. Oscar Loeffler, Miss Helen Loeffler, James E. Munroe, N. F. MacDonald, Anton J. Neumann, Mrs. Wm. H. Pott, Mr. and Mrs. George F. Rookey, Mrs. M. A. Shea, Mrs. May Scott, Charles M. Steinrock, Mrs. F. C. Townsend, J. Mortimer Vanderbilt, Mr. and Mrs. R. C. Wigand.

Kindred activities in the museum have been the Rose Show of the Staten Island Garden Club on June 5, 1930, under the management of Mrs. H. Lynn Halbert, and lectures on Wild Flowers and their conservation given for children by Mr. Stryker.

NATURE CLUB

Miriam Campbell Stryker, president; Hans L. Stecher, secretary.

The proceedings of this club are recorded in detail on a preceding page.

WOODCRAFT LEAGUE

Carol Stryker, head guide and ranger for Staten Island.

The meetings of the various junior tribes were resumed in September and were continued weekly until the end of June as follows, viz:

Thunder Bird, for boys under 12, directed by Milton Horn.

Luna, for girls under 12, directed by Miss Marjorie Lawson, assisted by Adele Siegel.

Hin-Han-Kaga, for boys over 12, directed by Milton Horn.

Hin-Han-Wasta, for girls over 12, directed by Mrs. Stryker, assisted by Grace Byron.

The meetings of the We-Kon-Ton-Ka (adult) tribe were also resumed in September, and were continued fortnightly to the end of June.

These meetings were held in the room on the second floor, newly provided for the purpose, and were under the general direction of Mr. Stryker.

The meetings of the Tottenville tribe, supported by a portion of the Carnegie grant were held weekly, and were directed by Mrs. Miriam Campbell Stryker.

Regular outdoor meetings, beginning September 20, were held on the third Saturday of each month for boys and girls over 12, and on the fourth Saturday for those under 12. They were directed by Mr. and Mrs. Stryker, except on a few occasions when Mr. Stecher took charge.

Outdoor meetings for the adult tribe were held on November 2, led by Mr. and Mrs. Lester S. Thomas; in October when an outdoor supper was arranged; on February 23, when the tribe visited Long Beach

o study shore birds, and on May 9, when the Woodcraft League visited Emerson Hill as the guests of Mr. Cornelius G. Kolff. The adult members also often participated in the monthly Bird Club walks.

Special meetings were held on March 19, when the American Indian was portrayed in song and recital under the direction of Mrs. Stryker, Miss Emilia Joan Schneider, and Mr. Thomas.

On May 2, the annual field day and grand council was held in the grounds of the Goodhue Home of the Children's Aid Society. On May 23 the annual meeting of all tribes was held in Bruce Park, Greenwich, Conn. From May 28 to May 31 the leadership training course at Sachem Rock, near Baltimore, Md., where a permanent camp has been established by Mr. A. R. King, was attended by fifteen members of the Staten Island tribes. On June 17 the annual grand council was held in the museum with 250 persons present. From June 16 to 27, the junior overnight camp for junior members was held in the grounds of Mrs. Christopher Steadman. Finally on June 28 a number of members participated in the memorial services at the Huerfano Church.

In addition to the facilities thus provided, Miss Marion Olwig began in December, 1930, special individual instruction for such members of the League as desired to work for honors in nature study.

Among the results of the year's work have been honors granted to Edith Logan for drawing 25 wild flowers, to Lester S. Thomas for collecting and identifying the seeds of 15 forest trees, to Mrs. Eleanor L. Crandall for the same plus the seeds of 40 plants, to Kenneth Temple, of the Tottenville tribe, for studies in minerals, to Elizabeth Rex Thomas for 80 wild flowers and 75 birds identified in the field, to Madelene Regene for 40 seeds and fruits, to Irma Thompson for 40 wild flowers, to Eleanor Brinley for 19 minerals, and to Miss Arline Cornell, who received high honor, with praise, for historical essays on the "Great Men of America and of Biblical Times." Miss Ivy Taylor was a prize winner in the soap sculpture contest, and two prizes were won at the School Nature League Fair held in the American Museum of Natural History by groups composed of Ruth Winsor, Eleanor Lane, Kathie Bernasconi, Adele Siegel, Delene Ellis, Adolph Frederick, Dakin Horn, Robert Sleight, Robert McCulloch, and Joseph Byron. In the contest for points awarded for service, the winners were Milton Horn and Irma Thompson, each of whom became entitled to a sojourn of two weeks at the Red Gods Camp in Ontario, with Eleanor Brinley and Adolph Frederick as alternates. Among those who will be employed in some way in summer camps are Mr. and Mrs. Thomas, who will again conduct their camp for boys at Lake Luzerne, N. Y., Milton Horn, Arline Cornell and Walter Yedlin, while Elwood Logan has graduated from camp councillor to a position in the American Museum.

The following members are to be commended for their contributions at Woodcraft meetings, viz: Kathie Bernasconi "Customs of

Spain"; Delene Ellis, "Laying Cables," "South America"; Eleanor Lane on "Barnacles," "Wild Flowers"; Adele Siegel on "Friends of Dogs," "Clouds"; Marion Siegel on "Land, Sea, and Water"; Eelin Stewart on "Scotland"; Irma Thompson on "New Zealand," "Japan"; Ruth Winsor on "Pigeons," "Cicada"; Carlton Beil on "Arrowhead Making"; Arline Cornell on "A Trip to Bermuda"; Paul Kuhn on "How to Make an Indian Tipi"; Hans L. Stecher on "Methods of Collecting"; Lester S. Thomas on "Making a Seed Pod Collection," "Woods Useful to a Camper"; William Weinmann on "Interesting Fish and How to Catch Them"; besides others whose names have not been received.

Annual Reports

ANNUAL REPORT OF BOARD OF TRUSTEES

MAY 16, 1931

The Board held its annual meeting on May 24, 1930, and organized the election of Mr. Wm. T. Davis as president, Dr. James P. Mapin as first vice-president, Hon. Morgan L. Ryan as second vice-president and the re-election of Mr. Ingalls as treasurer and Mr. Leng as secretary.

The Board held four stated meetings as provided by the by-laws, and executive committee met twice.

At the annual meeting Hon. Howard R. Bayne, after 28 years of service as president, was elected president-emeritus, and, in accordance with a resolution then adopted, a testimonial dinner was tendered him June 24, at which his accomplishments were enumerated.

The Board has suffered the loss of two of its members by the death June of Mr. Appleton L. Clark, and in November of Mr. Louis L. Ribus. On January 19 Mr. John Rader was elected for the balance of Mr. Clark's term.

The Board has also to regret an unusual amount of illness among the members of the staff. This disadvantage was relieved in part through the generosity of Mr. Davis in employing Mr. Hans L. Recher and the volunteer assistance of Mrs. P. A. Bonney. Mr. Recher's work in enlarging our exhibit of living animals and plants has been specially noteworthy.

The operation of the museum during the fiscal year just closing has developed satisfactory progress. The attendance and the number of meetings, as shown by Miss Pollard's report hereto attached, have increased. The accessions, 3786 in number, are perhaps the greatest on record. They include about 2000 lantern slides given by Mr. Daniel L. Bridgman, over 700 minerals of the Heath collection, 66 photographs from Mrs. C. W. Hunt, 67 plants from Dr. N. L. Britton, 54 birds' eggs from Mrs. Stuart, and hundreds of individual gifts. Taking up the work of individual departments we can report that Mr. Britton's initial gift of \$1000 towards the completion of the interior of the building was followed by 38 other gifts, enabling us to pay for plastering and painting the art gallery and stairs leading hereto. The donors included the children of the Drawing class and the Woodcraft League, members of the Bird Club and of the museum staff as well as members of the Institute. \$1977 was received and \$222 was expended, including carpenter work on attic windows, leaving a balance of about \$250. To this the Woman's Auxiliary has lately added \$150, with which we hope to complete the lavatory on the second floor. The painting of the exhibition floor should be done but at present the funds are not available.

The Publication Committee has succeeded in bringing our Transactions up to date in Vol. V, pts. 2-4, issued on March 3. This volume contains Book F of Anthon's Notes, valuable historically: Dr. Mary Rathbun's description of a new fossil species found on Staten Island besides the usual Nature Club and other reports. It has been made possible by the grant received from the Carnegie Corporation.

The Department of Historical Research reports the lectures given on Historical subjects, the publication of a further installment of Anthon's Notes, many interesting accessions, and an almost daily service to applicants for information. We had hoped to exhibit the bound volumes of "Staten Island and Its People" to-night, but once more the culmination of several years of labor is postponed for a short time.

The Department of Art has been provided with a newly decorated art gallery in which the Art Loan Committee, Mrs. O. C. Wagoner, chairman, has provided a succession of exhibits, especially featuring Staten Island artists. Classes in drawing and sculpture have been continued by Miss Nash, many of whose pupils won prizes in the sculpture contest, financed by Proctor and Gamble. Lantern slides of celebrated paintings have been provided and lectures given by Miss Nash and Mr. Hager Elmer, of the Metropolitan Museum of Art. The latter was given under the auspices of the Woman's Auxiliary which has also defrayed the costs of materials used by Miss Nash's pupils. In addition to the loan exhibits in the Art Gallery Miss Fernald has arranged exhibits in the main exhibition hall, the last of these, showing century-old chessmen, included the gifts of Mr. Wm. F. Davis and Samuel K. Erick received this year. Other gifts and purchases include a drawing of Red Bank Light by Mrs. Helen F. Cleaves, artistically and historically valuable, and the engraving "Union" of 1840 given by Mr. Nelson Monrovia, who has also given a number of mounted birds.

The Department of Natural Science, provided through the generosity of Mr. Davis with shelving and closets of steel, has attracted the cooperation of students from other boroughs and even other times. Miss Helen M. Hatcher, of Rochester University, who spent several days studying the collections there housed, is one example. Messrs. Sheridan and Williams from Brooklyn, Mr. Albert Penn from Manhattan Island, have been among the many regular members of what has come to be known as the "Attic Club." Among the results have been many additions to the collections on exhibition, especially in photomicrographs, in minerals, and in galls, the latter now occupying an entire case. One of our regular Institute meetings was devoted to a Microscopical Demonstration arranged by members of the Attic Club and their friends.

In Educational matters, with the aid of the Carnegie Fund, we have been able to extend the operations of the Woodcraft League to a

in Tottenville; to add to the lantern slides illustrating Zoology, to provide several Institute lectures. Our cooperation with the public and private schools of the Island has included lectures given at the schools, loans of lantern slides and natural history material, and many visits from classes and individual students. Miss B. Fisher, of the Curtis High School faculty, has brought her students to the museum for the study of our collections of geology and paleontology, and has taken her students, with our assistance, to interesting localities on the Island, the geological significance of which has thus been illustrated and explained.

In keeping with these educational matters we have extended the use of museum facilities to such organizations as the Boy Scouts, Girls Scouts and Camp Fire Girls, each of which has held here training sessions for their troop leaders, and such adult groups as the League of Women Voters, and the Richmond County Chapter of Professional Engineers, whose meetings have likewise been of educational character.

Other activities encouraged during the year have been Literature, as in the Belles Lettres section; Horticulture, as in the Horticultural Society and Garden Club; Music, St. Cecelia Society and Music Club; Genealogy, the Haughwout Kindred, and Patriotism, in the form of patriotic organizations. Miss Pollard's list of meetings held at the museum during the year, counting flower shows, each lasting five days, and art exhibits, lasting for 30 days, only as single items, totals 500, and certainly exhibit the magnitude and variety of our activities.

In keeping with the traditions of the Institute, our Hospitality Committee, Mrs. Witte, Mrs. Hoffmeyer, Mrs. Rottmann, Mrs. Leng, Mrs. Stryker and others, have continued the social features at many of these meetings.

For their help and to all who have helped to make the year successful, the Committee returns grateful thanks.

LIST OF MEETINGS IN THE MUSEUM

MAY 1, 1930-APRIL 30, 1931

Board of Trustees, and Executive Committee	15
Children's Friday lectures and special lectures to classes	40
Painting and Soap Sculpture classes	63
Geological Club, including 5 trips to the American Museum of Natural History	43
Aircraft, including Grand Councils, Hikes and outdoor meetings, caring for Bird Feeding Stations, and Handicraft classes ..	189
Music Club and Nature Club, including outdoor walks	21
Cultural Society, including Flower Shows and lectures, and Garden Club	13

Woman's Auxiliary, including informal receptions at the opening of Exhibits in the Art Gallery; Woman's Club Presidents; Daughters of the American Revolution	19
Boy Scouts, Girl Scouts, and Camp Fire Girls—training courses..	16
Veterans of Foreign Wars, Post 563, and its Women's Auxiliary..	33
St. Cecelia, Miss Littlefield's Choral Club, the Little Theater	25
Staten Island Professional Engineers, Transit Committee	24
Hunter College French class	3
Miscellaneous meetings of Conference House Directors, Haugh- wout Kindred, etc.	5
	509

REPORT OF THE TREASURER

MAY 16, 1931

INCOME

Balance last report	\$ 1,922.21
Receipts	5,055.28
	\$ 6,977.49

OUTLAY

Paid on account of building	\$1,746.26
Paid on account of loans	1,800.00
Paid for printing, etc.	2,113.67
	5,659.93
Balance, cash in banks	\$ 1,317.56

ASSETS

Cash in banks	\$ 1,317.56
John J. Crooke Fund	2,000.00
D. M. Van Name Fund	100.00
Permanent Fund	3,700.00
R. F. Nause Mortgage	10,000.00
	\$17,117.56
Liabilities, \$10,000.	
City appropriation for calendar year 1931	\$13,280.00

GIFTS AND ACCESSIONS TO MAY, 1931

Dr. N. L. Britton	International Nickel Co.
Miss H. L. Britton	G. F. Keiber
Est. S. R. Brick	Mrs. Georgie D. Kerr
Geo. Brabant	Lewis Hist. Publ. Co.
Joseph F. Burke	Philip Licht
Miss S. G. Clark	Miss Eliza Lake
Helen E. Cleaves	Mrs. J. W. Mersereau
J. Capuano	Nelson Mersereau
Crooke Fund	Capt. Thos. I. Miller
Carnegie Fund	Nora T. O'Donohue
O. L. Bridgman	Charles L. Pollard
E. C. Bridgman	Miss Agnes L. Pollard
Miss M. B. Delavan	Pilot Boat Crew
E. C. Delavan, Jr.	Wm. Parker
Nicolas Demerac	W. F. Paris
H. K. Decker	A. A. Rottmann
Mrs. E. M. Deems	W. H. C. Russell
Mrs. A. I. Dorr	Arthur Sohm
Mrs. H. G. De Mèli	J. M. Sheridan
Wm. T. Davis	Mrs. C. Schrieb
Mrs. Amy F. Griffith	Hans L. Stecher
W. E. Harmon	E. M. Stothers
Dr. Arthur Hollick	G. A. Sunderhof
Mrs. S. D. Heath	Mrs. Maud M. Stuart
Mrs. A. W. Hoffmeyer	Horace Spooner
John D. Humphries	Carol Stryker
Abram Hapenny	Mrs. Woeckner
Wilnetto J. Holmes	Mrs. O. C. Wigand
Mrs. C. W. Hunt	Mrs. H. A. Witte

PUBLICATIONS OF THE INSTITUTE

PROCEEDINGS OF THE NATURAL SCIENCE ASSOCIATION OF STATEN ISLAND

These PROCEEDINGS were printed in octavo numbers, partly in leaflet and partly in pamphlet form, from November 10, 1883, to June 3, 1905, and are included in nine volumes, separately indexed.

They may be obtained by members and patrons at \$1.50 per volume. To others the price per volume is \$3.00.

Single numbers of back volumes may be obtained at 10 cts. each, except the following, for which a price of \$1.25 will be charged for both:

Special No. 21, Vol. V, No. 5, March 14, 1896. "Staten Island Names, Ye Olde Names and Nicknames." Wm. T. Davis. 57 p. With map by Jas. W. Leng. Together with

Special No. 23, Vol. VIII, No. 25, Oct., 1903. "Supplement to Staten Island Names, Ye Olde Names and Nicknames." Wm. T. Davis. 22 p. Map.

PROCEEDINGS OF THE STATEN ISLAND ASSOCIATION OF ARTS AND SCIENCES

These PROCEEDINGS are in 8vo parts, 4 parts to a volume except v. 7, which was issued complete in one part. They contain the scientific and other records of the meetings of the Association and consist of v. 1-7, June 1905-May 1918.

By resolution of the Association all members and patrons may obtain back parts at 35 cts. or back volumes at \$1.25. To others the price is 75 cts. per part or \$3.00 per volume for both current and back issues.

PROCEEDINGS OF THE STATEN ISLAND INSTITUTE OF ARTS AND SCIENCES

Form and price same as PROCEEDINGS of the Association.

These PROCEEDINGS contain historical, scientific, and other articles, as well as records of the meetings of the Institute, and the current issues are sent free to patrons and to members in good standing.

VOL. 1, Oct. 1918-May 1922, p. 1-165, pl. 1-4. 1923.

VOL. 2, Oct. 1922-May 1924, p. 1-186. 1924. (Pt. 1, Special Issue.)

Special Issue, Jan. 1924. List of the Coleoptera of Staten Island, by Charles W. Leng and William T. Davis. 82 p. and index. Price \$1.25.

VOL. 3, Oct. 1924-May 1925, p. 1-154. 1926.

VOL. 4, Oct. 1925-May 1927, p. 1-138, pl. 1-4. 1928.

VOL. 5, Oct. 1927-May 1930, p. 1-205. 1930-1931.

4. THE MUSEUM BULLETIN

Monthly octavo leaflets, containing official notices of meetings of the Institute and sections, important items of business transacted by the Board of Trustees, and descriptive items concerning the museum exhibits and activities. Begun in August 1908. Current numbers sent free on application. Back numbers 2 cents each.

Checks should be made payable to the Staten Island Institute of Arts and Sciences, and all remittances and communications addressed to

The Staten Island Institute of Arts and Sciences,
Staten Island, N. Y.

MUSEUM STAFF 1930-1931

<i>Director</i>	Charles W. Leng, B.Sc.
<i>Curator</i>	Agnes Lyman Pollard
<i>Assistant Curator</i>	Carol Stryker
<i>Educational Assistant</i>	Agnes C. Nash
<i>Janitor</i>	Harrison Johnson
<i>Museum Guard</i>	Carlton Bell
<i>Night Watchman</i>	William E. Johnson

DEPARTMENT OF ARTS AND ANTIQUITIES

Robert Waterman Gardner, *Honorary Curator*

DEPARTMENT OF BOTANY

Philip Dowell, M.A., Ph.D., *Honorary Curator*

DEPARTMENT OF ZOOLOGY

William Thompson Davis, *Honorary Curator*

James Paul Chapin, Ph.D., *Honorary Assistant*

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PROCEEDINGS
OF THE
STATEN ISLAND INSTITUTE
OF
ARTS AND SCIENCES

EDITED BY
CHARLES W. LENG, WILLIAM T. DAVIS
JOSEPH F. BURKE
PUBLICATION COMMITTEE

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Issued January 14, 1933
Staten Island, N. Y.
THE SCIENCE PRESS PRINTING COMPANY
Lancaster, Pa.

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PROCEEDINGS
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OF
ARTS AND SCIENCES

VOLUME VI

OCTOBER 1931—MAY 1932

EDITED BY THE PUBLICATION COMMITTEE •
CHARLES W. LENG, WILLIAM T. DAVIS
JOSEPH F. BURKE

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STATEN ISLAND, N. Y.

1933

THE SCIENCE PRESS PRINTING COMPANY
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PROCEEDINGS
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STATEN ISLAND INSTITUTE
OF
ARTS AND SCIENCES

VOL. 6

OCT. 1931—MAY 1932

PARTS 2-4

Anthon's Notes

[Continued from volume 5, p. 160, and concluded.]

BOOK G

Researches in the Surrogate's Office, N. Y., relative to the History of Staten Island.

[The fly-leaf bears the following, "B. 2. Cha^s. E. Anthon Oct. 7th 1850," and some miscellaneous notes which are printed on pp. 9-90.]

I. Will of Ellis Duxbury. [This has already been printed in Proc. Nat. Sci. Assn. of S. I. volume vii, no. 15, special no. 22, March, 1900, as an appendix to "Colonel Francis Lovelace and his plantation on Staten Island," by Edward C. Delavan, Jr.]

II. André's Will. The following is my last Will and Testament and I appoint as Executors thereto Mary Louisa André my Mother, David André my Uncle, Andrew Girardot my Uncle, John Lewis André my Uncle. To each of the above Executors I give Fifty Pounds.—I give to Mary Hannah André my Sister Seven Hundred Pounds.—I give to Ann Marguerite André my Sister Seven Hundred Pounds.—I give to Louisa Katherine André my Sister Seven Hundred Pounds.—I give to William Lewis André my Brother Seven Hundred Pounds.—But the Condition on which I give the above mentioned Sums to my aforesaid Sisters and Brother are that each of them shall pay to Mary

Louisa André my Mother the Sum of Ten pounds yearly during her Life.—I give to Walter Ewer Jun^r. of Dyers Court Aldermanbury One Hundred Pounds.—I give to John Ewer Jun^r. of Lincolns Inn One Hundred Pounds. I desire a Ring value Fifty Pounds be given to my Friend Peter Boissier of the Eleventh Dragoons.—I desire that Walter Ewer Jun^r. of Dyers Court Aldermanbury have the Inspection of my papers, Letters, Manuscripts, I mean that he have the first Inspection of them with Liberty to destroy or detain whatever he thinks proper, and I desire my Watch be given to him. And I lastly give and bequeath to my Brother John Lewis André the residue of all my Effects whatsoever.—Witness my Hand and Seal Staten Island in the province of N. York. N. America the 7th June 1777. John André Captⁿ. in the 26th. Reg^t. of Foot. (L. S) N B The Currency alluded to in this Will is Sterling Money of Great Britain.—I desire nothing more than my wearing Apparel be sold by public Auction. J. A.

City and Province of New York } ss. Be it remembered that on the Ninth day of October in the Year of Our Lord one thousand seven hundred and Eighty personally came and appeared before me Cary Ludlow Surrogate for the City and Province aforesaid Henry White and William Seaton both of the City and Province aforesaid Esquires who being severally duly sworn did declare that they were well acquainted with the hand Writing of John André formerly Captain in the twenty sixth Regiment of Foot and since Adjutant General Deceased that they have frequently seen him write, And that they verily believe that the before written Instrument purporting to be the last Will and Testament of the said John Andre bearing date the seventh Day of June One thousand seven hundred and Seventy Seven with the Subscriptions thereto are all of his the said John Andre's own proper hand Writing and further say not.

Cary Ludlow. Surr.

Ibid. [Record of Wills. Surrogate's Office, New York] Vol. 32. p. 337.

III. "The last Will & Testam^t of Thomas Morrell an Inhabitant of Staten Island in & und^r the Governm^t of New Yorkshire" made "In y^e yeare of o^r Lord & Saviour. 1670." May 2^d. Ib. No. 1. P. 125.

[Several volumes of "Abstracts of Wills," published by the New York Historical Society, cover the above, those which follow, and a few omitted by Anthon, Walraven Lutin for example. These abstracts show the disposition of the estates, while Anthon's Notes give the phraseology, thus supplementing the abstracts.]

IV. Will of Nicholas Stillwell of Staten Id. "Husbandman" signed with his mark & sealed Dec. 22^d. 1671

Sealed & Delivered in

presence of

T: de Meijer

Rich: Charlton "

Letters of administration granted June 17, 1672.

b. N^o. I. pp. 168-169.

V. Letters of Administration granted to Paulus Richards to whom "Paulus Regrenier, late of Staten Island bequeathed the greatest part of his Estate" as "his friend and Countryman." Given by E. Andross. Nov. 8. 1676.

b. No. I. p. 259.

VI. Obediah Holmes of S. I. executor of Ambrose Sutton of same place.

proofoe having beene made of the said Will at the Court of Sessions held at Graysend for the west Riding of yorkeshire upon Long Island" Administration granted July 8, 1678.

b. N^o. I. p. 327.

VII. Administration Granted to M^r Paulus Richards & Obediah Holmes on the Estate of Malliard Journei (Journoi) Whereas Malliard Jourie late of Staten Island, did in his Last Will & Testament give & bequeath all his Estate of what nature or Kind soever unto his wife Elizabeth du Mon, for the Maintenance of her Selfe & Children during her Widdowhood, but in case shee should happen to Remarry then the Estate shee should leave to be divided Equally, the one half or Moiety to his wife; the other halfe or Moiety to her Children nominating and appointing David De Marez & Joost Van Obinis Executors in Trust to see the pformance of the S^d Will, And it Soe Happening that the s^d Elizabeth hath since Joyned her selfe in marriage to another son upon Staten Island, but the aforementioned David De Marez & Joost Van Oblinus have neglected their duty in Causeing a divi-

sion to bee made of the Estate of the deceased as directed or taking any other Care thereof, of which Complaint was made at the Court of Sessions for the West Riding of Yorke Shire upon Long Island, held at Gravesend June last, who nominated & appointed M^r Paulus Richards of this City Merch^t. & Obadiah Holmes of Staten Island in their Stead & Places Dated in New Yorke the 8 day of July 1678.

Ib. No. I. 329. 330.

VIII. "Whereas William Rodney late of this Citie Gent. and Surveyor of the Customes being bound for this place from the Island Nevis dyed on Board a Certaine vessell named the Laurell, in the Sound neare unto Newhaven & Leaving no Will in writing which could bee found yet as a nuncupative Will did declare that hee left ye care of his Concernes in these parts to Cap^t. John Palmer of Staten Island" &c &c

Letters of Admⁿ. graunted January 1678.

Ib. p. 372. N^o. I.

IX. Letters of Administration granted to Anne y^e widdow of John Jarmyn Nov. 20. 1079. Late of Staten Island blacksmith and An Inventory of the Estate.

Ib. pp. 405-6-7.

X. An Inventory of the Estate of Nathan Whittman of Staten Island deceased about y^e 28th day of August 1070.

First A house & Land (?) & fower Erues¹ [In pencil Roods?] joyning to y^e house & forty akers of Land in y^e old towne & 37 akers in the Clover laid out by the Surveyor & eight akers of Bogg Meadow adjacent to the Erues & ten akers of Meadow at y^e great Kill in all vallued at

£75. oos. ood.

* * * * *

Fine Stocks of Bees [Interlined: vid. Denton. p. 21. & this book. 29]

* * * * *

3.15

Whereas Nathan Whittman late of Staten Island husbandman was about y^e 28th: day of the month of August accidentally drowned & died Intestate leaving a Wife & six children behind him &c &c.

Ib. p. 428.

¹ The ERW is a land measure (= 4320 sq. yds.) still, though rarely, in use.

XI. A Quietus Entered for Cap^t John Palmer the 17th Day March 1683. Dated Nov. 8. 1683. Tho: Dongan.
 Now all men by these presents that for as much as John Palmer
 Int. who hath Intermarried with Sarah the Widdow and Relict
 John Winder late of this Citty Merchant Deceased Administred
 on the Estate of the said Winder &c &c.

p. 457.

XII. "A quietus granted to John Vincent," who "Adminis-
 d upon the Estate of Jacques Causseau Deceased."

Dated March 23 1684/5

Tho. Dongan.

XIII. Signed by order of the

Commission^{rs}. of the Court of

Admiralty

Sep. 22^d. 1666.

Rich. Charlton Cler.

p. 1. p. 6. back part

XIV. Letters of Administration.

Thomas Dongan Leu^t. Governo. and Vice Admirall of New
 Yorke &c under his Majesty James the second by the grace of
 God of Engl^d. Scott^d. France and Irel^d. King Defend^r. of the faith
 Supream Lord and Proprietor of the Colony and Province of
 New Yorke & its Dependencys in America

Jan. 27. 1685.

p. 3. p. 22.

**XV. T. D. is called "the Hon^{ble}. Thomas Dongan Esq^r Dep-
 ty Governor Gen^l. of his Majesty "**

Aug. 14. 1685

p. 3. p. 27.

**XVI. Letters of Adminⁿ granted on Estate of "Dirick Jan-
 sen Van Deventer Late of the Citty of New York Deceased "**
 at Fortt James in New York the 18th Day of June 1686 "

p. 3. pp. 43. & 44.

**XVII. The change in title of D. now occurs. "Thomas
 Dongan Cap^t Generall Governor in Cheife and Vice Admirall
 and over the Province of New Yorke and territoryes de-
 pending thereon in America Under his Majesty James the Sec-
 ond by the grace of God King of England Scotland France
 and Ireland defender of the faith &c.**

p. 20. 1686.

p. 3. p. 44.

XVIII. Words "Most Sacred" inserted before word "Majesty"

No 3. p. 98. and so continued.

XIX. first time. Jacob Leisler Lieut Gov^r & Commander in Chief &c

Jan. 4. 1689

3. p. 147.

XX. Translatie In the Name of the Lord Amen
Know all men who shall see this present Publick Instrum^t. that In ye Yeare after the nativity of our Lord & Saviour Jesus Christ 168⁵/₈ y^e. 9th. of march before me William Bogardus not: Pub: Residing In N York Admitted by y^e Right Hono^{ble} Lord Thomas dongan L^t. Gouv^{er}. Gene^{ll}: & vice Admirall under his Royall ma^{tie} of great Brittain^e of N Yorke & dependencies thereof In America.

3. p. 157.

XXI. The same form with use of word "Lord"

3. p. 9 of a supplement. Not translated. date Jan 31. 168⁵/₈

XXII. Will of Middleton Billup of the City of New York Marriner—wife's name, Sarah Billup. Signed Middleton Billupp. Oct. 5. 1724.

R. of W. 9. [Interpolated in pencil IX] 503.

Letters of Administration. Oct. 25. 1724. ib. 504.

XXIII. Will of Susannah Bridon of Statin Island Widdow 1724

leaves to her Cousin John Bodin a piece of land on Charles Neck. Vol. 10. p. 3.

Lettrs of Adminⁿ Dec 5. 1724. p. 5.

She was the wife of Francis B. whose will is in Vol. 9. p. 412.

There is also a will of F. B. N^o. 7. 147. he cuts off his son ffrances with a shilling. L. of A. May 12. 1704.

XXIV. Will of Peter Biyon [Billiou] of y^e County of Richmond. yeoman.

L. of A. Jan^y. 1702/3

XXV. Will of Cornelis Corssen of Statten Island . . . Yeoman. Wife's name Maritie Corssen. Dec. 9. 1692. Vol. 5. p. 9
L. of A. Dec. 7. 1693 ib. p. 10.

XXVI. Dec. 13. 1695. Will of John Crocheron of Staten Island. Planter. Wife—Mary. Two sons, eldest Nicolas other Anthony.

L. of A. Sep 3. 1696.

Will of Nicholas Crocheron N^o. 7. p. 312. L. of A. Aug. 6. 1707.

XXVII. W. of Marc Dusoshauy of the Co. of Richmond. Dec. 23. 1713.

L. of A. Jan. 27. 1713.

XXVIII. W. of Tunis Egberts Jul. 6. 1721. Seven sons mentioned by name Egbert, John, Abraham, Jacque, Isaac, Lawrence, Tunis 4 Daughters. N^o. 9. p. 258.

L. of A. Aug 25. 1721.

XXIX. Will of Jaques Guyon of y^e County of Richmond Planter (in Dutch) Staten Eyland.

L. of A. Dec. 5. 1694.

XXX. W. of Lambert Garrison. Oct 7. 1723.

L. of A. May 22. 1725.

XXXI. W. of Elizabeth McKenzie widow and Relict of Eneas McKenzie Jul. 23. 1723.

L. of A. Jan. 15. 1723/4.

XXXII. W. of Jaques Pouillon of the County of R. Gentlⁿ Nov. 2. 1718.

L. of A. June 14. 1720. N^o. 9. p. 180.

XXXIII. Extract from Will of Richard Floyd of Brookhaven in the County of Suffolk. Feb. 27. 1738. Item I give also unto my Grand Daughter Dongan that is to say the Daughter of my beloved Daughter Ruth Dongan Deceased one hundred pounds Current lawful Money of New York to be paid on her Marriage Day.

Record of Wills. Vol. 13. p. 225.

XXXIV. W. "of Thomas Dongan of the County of Richmond in the Province of New York Esquire" wife Magdalen sole Executrix, "To my said Wife Magdalen I give & bequeath all my real & personal Estate during the minority of my son John Charlton, willing & directing that a decent and suitable Education & Maintenance shall be to him allow'd from the Rents & Profits of my said Estate" . . . But in Case

my son John Charlton should Die during his Minority without issue, I then give & bequeath all my real & personal Estate to my Wife Magdalen to her and her heirs forever." March 8. 1765. Benjamin Seaman Surrogate of R. C^o.

L. of A. Jul. 25. 1768.

[XXXV.] "**Martha Debonrepos** wife of David Debonrepos mother of Thomas Stilwell Late of the County of Richmond Yeoman " I (Robert Hunter, Esq. Gov^r.) " Desireing that the Goods rights and Creditts of the said Deced may be well and ffaithfully administred and Converted and Disposed of to pious uses doe grant " &c. power to administer (" In Trust for Nicholas Stilwell an Infant Son of the Said Thomas Stilwell Deced) M. D. constituted " administratrix of all and Singular the goods rights & Creditts of the Said Deced in Trust for the Said Nicholas Stilwell."

N. Y. Oct. 25th. 1711 Record of Wills. No. 8. p. 60.

XXXVI. June 16th, 1733. "I **David de Bonrepos** Minister of the Holy Gospel in the County of Richmond in the province of New York, being by the grace of [God] in good Health and of perfect Mind and Memory " "Item I give and Bequeath unto my Dearly Beloved Wife Marth Debonrepos for her Dowry fifty pounds to be Entirely at her Disposal Item I give unto her as Addition To the Dowry first the three pounds Conditioned as it will appear by the Bonds Secondly a Negro Woman Called Tenah and her Daughter called Sarah which is at Jacob Bilyou's Thirdly for her Maintenance she Shall have and Receive as long as she Shall Remain a Widdow the Interest of all my Bonds, that Shall be due to me at my Decease And for my other Negro Wench named Judde And her Child Called Elizabeth I give the Child Elizabeth to my Wife, and the Mother of the Child Judde I give unto my Heir Named hereafter—I give unto my Said Wife And to her own use and Disposal all my household Goods Excepting a Silver Tankard and a Silver Cup Item I give and Bequeath to m^r John Lafont of New York the Sum of forty pounds, Item I give and Bequeath unto Blanchar Debonrepos wife to Henery Chaden of New Rochel, thirty pounds, Item I give and Bequeath to Anna Pamer and Hester Lecount my Niece the Sum of Ten pounds

to each of them, Item I give and Bequeath to the three youngest sons of Alexander Debonrepos of New York Deceased the Sum of ten pounds to be paid to Each of them, Item I give my Silver Tankard and Silver Cup and all the Rest of my Estate Real and Personal unto David De Bonrepos, And the Son of Alexander De Bonrepos aforesaid Item I will that after my Decease My Negro Man Sansfasson shall be maintained by my Heirs and Executors at their Discretion, Item I Constitute and ordain Mess^{rs} Barnt Martlings Paul Michaux and Nicolas Stilwell Grandson to my Wife all of Staten Island for my Executors "

Record of Wills. No. 12. p. 175.

" Know Ye that at the County of Richmond the Sixth day of May Inst: Before Walter Dongan being thereunto Delegated and appointed the last Will and Testament of David De Bonrepos was proved "

May 6th. 1734. Ib. p. 177.

[Interlined: Some of the "Bon Repo" family (Hester & Blanche?) are mentioned Doc. Hist. Vol. 3. p. 947. Date 1710.]

[XXXVII.] John Crocheron. Dec. 13. 1695. " Planter being of a great age but of good and sound memory " " unto my loving wife Mary the use of all my estate both reall and personall during her naturall life " after the decease of my said wife unto my eldest son Nicolas Crocheron " " my dwelling house " " on the north side of the sd Island " " together with two lotts of land belonging thereunto " the land " -esteemed at twenty acres " " which said lotts of land are bounded south by the highway that parts them from the land now in the tenure and occupacon of one Arent Praell as also two horses and four cows to be chosen by him the said Nicolas out of the stock after the decease of my said wife with a weavers loom tools and appurtenances thereunto belonging." " unto my son Anthony Crocheron " " my two other lotts of ground " " bound by Long neck at the side of M^r John Caper " [Casier?] (who writes his name " Jean " as one of the witnesses) " -esteemed at twenty acres " with 2 horses & 4 cows to be chosen as before, with all the utensils of husbandry. After his wife's decease & full payment of debts, legacies & bequests, the re-

mainder of his estate to be equally divided among all his children, "share and share like" "Nicolas and Anthony to have their equall share thereof over and above the bequests and legacyes aforesaid" wife Mary and two sons Nicolas and Anthony Executors.

Signed with the mark of John Crocheron.

"Anthony Crocheron took the oath of an Executor" Sept. 3^d. 1696.

Record of Wills. N^o. 5. pp. 163. 164.

Same Vol. p. 173 & 174 is an inventory of the estate of John Crocheron, the Sum Total of which is £625.7.0. independent of a barn valued at £40.0.0., sworn Jan. 9. 1697. "before Elias Duxbury and Thomas Stillwell." Interesting items are

"a neger man neger woman & neger boy £ 120. 0.0"

"money in the house arabian gold & other gold £ 72. 8.0"

"in ffrrench money sterl 118 lewers & double Louis £ 14.15.0"

in heavy pieces of 8/8 468½ £ 140. 0.0"

"a p^r tormenters"

"fifteen books one a large bible £ 4. 0.0"

"An Inventory of the Goods & Chattells belonging to Nicholas Crocheron deceased and now in y^e possession of Ann Crocheron his widd" Dec^r. 23. 1707. The whole amount is £475. 1. 1. Current Money of N. Y. R. of W. N^o. 6. pp. 182. 183.

Nicholas Crocheron "planter" of Richm^d. C^o.

"I give unto the Poore of the French Congregation of Staten Island the Sume of five Pounds Curr^t. money of New York to be paid by my Executors to the Elders of the Sd Congregation."

[XXXVIII.] Licenses of Marriage in the same Vol^e. [No. 5.]

Andrew Cannon & Ann Puppyn Nov. 18. 1695. p. 138.

William Walton & Mary Sandford Aug. 30. 1698 p. 300.

Thomas Walton & Mary Stillwell 1698/9. p. 327

[XXXIX.] Will of Christian Jacobson N^o. 34. p. 433. dated Jan. 10. 1782. Wife, Ann Jacobson. Son, John V. Jacobson, Daughters Catharina & Elizabeth. To Catharine £1050 N. Y. Curr. and to Eliz. £1000 N. Y. C. "Item I give to the Breth-

ens Church on Staten Island the sum of Twenty Pound, & the Reverend M^r. Gambold the sum of ten pound, and to the said m^r Gambold the sum of Twenty Pound for the use of the missionaries amongst the Indians," His "House-Clock" to his son John.

brother in Law, Cornelius Vandeventer.

igned with C. J's mark (his wound perhaps disabled him. E. A)

vorn to by witnesses Feb. 20. 1782.

[XL.] Vid. p. 14. [Item No. X. above.]

The bee

A more adventurous colonist than man,
With whom he came across the eastern deep,
Fills the savannas with his murmurings,
And hides his sweets, as in the golden age,
Within the hollow oak. I listen long
To his domestic hum, and think I hear
The sound of that advancing multitude
Which soon shall fill these deserts."

Bryant. The Prairies

[From page 29 to page 51 of Book G the pages are blank. On page 51 the following notes begin.]

[XLI.] **An Act to incorporate a Company** for erecting a bridge across the Sound, from New Jersey to Staten Island, between Amboy and Rahway River. Passed June 10, 1812. Laws of N. York. Vol. 6. Albany. 1812. p. 452.

[XLII.] **An Act to discharge the Rector, Church Wardens and Vestrymen of St. Andrew's Church, in the county of Richmond, from the payment of quit-rents, and for other purposes.** Passed April 16, 1816.

Preamble. Whereas the glebe or church property, belonging to the rector, church wardens and vestrymen of St. Andrew's Church, in Castleton, in the county of Richmond, was originally granted, by patent, to Elias Duxbury, and was by him devised to the said church, in the year of our Lord one thousand seven hundred and eighteen, by reason of which the said church cannot obtain the benefit of the provisions contained in the seventh section of the act, entitled "an act further to

amend the acts concerning quit-rents," passed 18th April, 1815; Therefore,

Land to be discharged from quit-rent I. Be it enacted by the people of the State of New York, represented in Senate and Assembly, That the comptroller may and he is hereby directed to cancel and discharge, on the books in his office, the quit-rents charged on the lands included in the patent to Elias Duxbury, and devised by him to the said rector, church wardens and vestrymen of St. Andrew's church aforesaid.

Preamble. And whereas Daniel D. Tompkins, has engaged to open and make a road in Castleton aforesaid, four rods wide, extending from Kill Van Kull to the Richmond Turnpike road, which leads to the Bay of New York, at the south side of the Quarantine ground, in exchange for the present circuitous road of two rods wide; therefore,

New road to be made II. Be it further enacted, That whenever the said Daniel D. Tompkins, shall open and make the said proposed road, and shall procure and file in the office of the clerk of the county of Richmond, a certificate of the commissioners of highways, for the said town of Castleton, for the time being, or of a majority of them, that the said proposed road is opened four rods wide, and completed in the manner of a turnpike road, from the north-west corner of the land of the said Daniel D. Tompkins, on the aforesaid Kill Van Kull, to intersection with the said Richmond turnpike road, and that the same is more convenient for the inhabitants of said town, and for the public, than the present road leading to the said Richmond turnpike road, the said new road shall be and thenceforth continue a public highway: And all that part of the present road, between the point where the said proposed road shall leave the shore of Kill Van Kull, and the turnpike road at the south-west corner of the Marine Hospital or

The old road to be shut up.

Quarantine establishment, may and shall revert to the said Daniel D. Tompkins, his heirs and assigns forever:

* * * * *

Laws of N. York. Vol. IV Albany. 1818. A. p. 182.

[Inside the front cover of Book G the following miscellaneous notes have been written and cancelled.]

Watchoke 29.

"Carl Benson," in Fraser, has a fair hit at the Indian Etymologists;—

"What does Niagara mean?

"Broken water, I believe; but one gets so many different meanings for these names, from those who profess to know more or less about the native dialects, that you can never be certain. For instance, a great many will tell you, on Chateaubriand's authority, that Mississippi means Father of the Waters. Some years ago one of our Indian scholars stated that this was an error; that the literal meaning of Mississippi was old-big-strong—not quite so poetic an appellation. I asked Albert Gallatin about it at the time—he was considered our best man on such subjects—and he told me that the word, or words, for the name is made up of two, signified the entire river. This is a fair specimen of the answers you get. I never had the same explanation of an Indian name given me by two men who pretended to understand the Indian languages"

Literary World No. 201. Dec. 7. 1850. Vol. 3. p. 85

Hugh of Geneva, Lord of Anthonc, entrusted with a pacific message from the Pope to Edward 3^d, to induce him to desist from hostilities in France. James's Life of Edw^d. Bl^k. Prince. II. 282.

[Pinned to the first page a loose paper bears the following] whatever gratitude Spain owes to her Cortes, or Portugal to her Albuquerque, this, and in its results more than this, is due from England to Clive. Had he never been born I do not believe that we should, at least in that generation, have conquered Hindostan; had he lived longer I doubt if we should, at least in that generation, have lost North America. * * * (Note by Reed) The allusion here is to the expectation that

Clive would have been charged with the command of the British forces in the American Revolutionary War. If his military energy had been in the stead of the inactivity and imbecility which characterized the campaigns of Howe and other commanders, the war might indeed have been protracted. But after all as the author appears to intimate, it would have been only a difference of time. Such too was Lord Clive's own judgment on American Colonial affairs, for, in 1772, two years before his death, he said: "that America will sooner or later become independent there can be no question." Malcolm's Life of Clive. vol. III. p. 394.

Lord Mahon's Hist. Eng. II. 518.

Book H

[Inside front cover is written "Chas. E. Anthon 60 Church St." and "GL." On the following page the title is written. The inside front cover and the inside back cover are filled with miscellaneous notes which are printed on pp. 103-104.]

Researches among Printed Books contd. in the Library of the N. Y. H. S. & Else-where.

I. Llanmadock: Mr. Morgan Jones. An honest Plowman. Had he been cast out for insufficiency, there had been no room for complaint. Under the head "Ejected or Silen'd Ministers in South Wales" "Glamorganshire" in Calamy's Account of the Nonconformists. London, 1713, vol. II. p. 732. (Mr. James Riker informed me of the existence of this Notice)

[Mr. Morgan Jones was appointed by Governor Andros in 1682 as minister on Staten Island and a tax was levied for his support.]

II. III. IV. V. [These are quotations from New York in 1695, by Rev. John Miller, London, 1843. The only reference to Staten Island follows] Richmond, A Meeting House i. a. French, Dr. Bonrepos, Families: English 40, Dutch 44, French 36.

VI. VII. VIII. [Quotations from "Account of Miranda's Expedition, New York, 1808."] To avoid public suspicion... in receiving all her men on board, the ship (Leander A.) left the wharf, being a place too public for that purpose, and

down to the quarantine ground, where all the men went on board; together with their commander-in-chief, Miranda. (p. 23) Leander weighed anchor and put to sea, February 3, 1806. Her men and officers amounted to 300. (p. 25.)

Colonel, in the island of St. Domingo, Capt. Billopp, with thirteen other officers, volunteered from the Leander to board of the schooner Bacchus, which had been purchased there for the expedition. (p. 33.)

Capt. (Thomas) Billopp, here mentioned, was the oldest of Col. Christopher Billopp of Revolutionary fame. He was born in 1767, probably on Staten Island, engaged in business in New York after the Revolution, and was executed on July 1, 1806, at Puerto Cabello, Venezuela, as the result of his participation in the Miranda expedition. See "A History of Thomas and Anne Billopp Farmar," New York, 1908, pp.

[A long quotation from Pettigrew's *Life of Lord Nelson*, London, 1849, in which the only possible reference to Staten Island is the statement that Nelson in October, 1782, sailed from Quebec with a convoy to New York, and there met the fleet under the command of Lord Hood.]

[The following notes are unnumbered]

John Manners) Marquis of Granby, eldest son of John (Manners) Duke of Rutland. The hero of alehouse signs, and the most popular military commander who has as yet appeared in England. His generosity, kind-heartedness, engaging manner and heroic bravery made him the idol of the soldiers and the people. He appears to have been a man of no talent. Died 19th October, 1770. Lord Dover's *Life of Frederick the Great*, Y. 1848, II, p. 117. Note.

[Continued] In the battle of Menden, Aug. 1, 1759, when Lord John Manners, through insubordination or cowardice, disobeyed the Duke of Brunswick's orders to charge with his cavalry, the Marquis of Granby, who commanded the second line, charged with great alacrity. Sackville almost shared in consequence the fate of Admiral Byng, and Granby must have been as popular in inverse ratio. Lord Mahon. *Hist. Eng.* II,

[There was a tavern called The Marquis of Granby on Staten Island during the Revolution].

[Pages 9 to 14 are used for a long quotation from Silas Wood's Sketch of the First Settlement of the Several Towns on Long-Island relating to the Indian tribes living there].

[On pages 14-15 there are the following]:

A list of the Field Officers and Captains of the New York troops employed in the French war, in 1758, 59 and 60:

1758

1759

1760

Captains

Richmond

Thos. Arrowsmith

Thos. Arrowsmith

Anthony Waters

A very interesting letter about first establishment of Moravians in N. Y. & S. Island. Miller Papers. I. No. 10.

[Pages 15 to 20 are used for quotations from Miller Papers (New York Historical Society Collections. I) having no reference to Staten Island.]

[Pages 20 to 24 are used for a translation of the letter of Isaack de Rasieres, printed in Collections N. Y. H. S. 2^d series, vol. 2, in which Staten Island is described in the following words: (1627)

The West point is an island, inhabited by from 80 to 90 savages, who support themselves by planting maize. . . . At the side of the before mentioned little river, which we call "Achter Col," there is a great deal of waste reedy land; the rest is full of trees, and in some places there is good soil, where the savages plant their maize, upon which they live, as well as by hunting.]

[Commencing on page 24 are written the following notes, in part cancelled by Anthon]

In the notes to Smith's history of New-Jersey, is inserted an extract from a pamphlet, said there to have been published in 1648, entitled "A description of the province of New-Albion, in North America" &c. (which country, extending from the west bank of North-river to the bounds of Virginia, is said to have been granted by King James the first to Sir Edward Ploeyden, made earl Palatine of the same,) giving, among

er things, an account of the country, on the bay and river Delaware: and though part of it, at this time, appears not very intelligible, yet, as it is somewhat curious, and exhibits that notion, or knowledge, of this country was then propagated, the following extract therefrom, may probably be interesting to some. Proud's History of Pennsylvania. vol. I, p. 1, note. . . . there is at least 1200 (Indians. A) under the two Raritan Kings, on the North side (of the province. A.) next to Hudsons river, and those come down to the Ocean, about Little-Eg bay, and Sandy Barnegate . . . ib. p. 114. note

"The ninth (seat. A.) is called Mount Ployden, the seat of the Raritan Kings on the North side of this Province twenty miles from Sand hay sea, and ninety from the Ocean, next to Mara hill, the retired Paradise [interpolated: Mount Ployden identified with "Round Mountain" in the vicinity of White House, called by Indians Kushitunk, in Lebanon Township, Mendenhall C^o., by Rev. Geo. C. Schanck. "Round Valley" enclosed by this mountain, supposed "retired Paradise." p. 28 vol. 7 of Proc. N. J. Hist. Soc. 1851.] of the children of the Ethiopian Emperour, a wonder; for it is a square rock, two miles compasse, 150 foot high, a wall-like precipice, a strait passage, easily made invincible, where he keeps two hundred of his guard, and under it is a flat valley, all plain to plant and grow." [Interpolated: Corrected by comparison with "Description of the Province of New Albion" Printed in the year 1683 by "Beauchamp Plantagenet of Belvil in New Albion acquire" in Vol. II. of Tracts &c collected by Peter Force.] . . . the Hook-hill, on the ocean, with its clear fields, near Hudson's river, on the south side is much commended for health and fish, were it not so northerly." ib. p. 115. n.

Pages 26, 27, and 28, are used for further quotations from Plantagenet's work having no direct reference to Staten Land.]

Paper obtained from Old Judge Mersereau of Chenango—of Staten Island.—got Dec^r. 4 1800.

Wideler settel^d. at V: Duses S^d When the Dutch fleet was in one Woolfert Compare [interlined? Gompert] s^d he had to Wash his hands in the Englishmans blood before night

but the first ball took off his head. She s^d there was 2 or 3 houses at Old Town and at Carls-neck & the Indians run off the Island and murder^d. at Old Town all except a little girl who run into the woods. the indian put on her fathers cloths and Decoy^d the Girl supposing it to be her father her they sav^d The Indians Came Principally from Bergain. Tho^s. Burbanck Came in the Calladone [interlined: which ship I have seen the Wrack above Amboy] from Scotland with others, on a promise to have the Land they subdue^d. and got from the indians—he afterwards married to Altie W: and settel^d on the Clovehill [Thomas Berbanck had a daughter Aeltie baptised in Dutch Reformed Church on April 22, 1707.] he s^d when he built a log house he got Deer rackoons—Bears & wild Animals when he wanted & that from Dongans Mill Creek nothing but an Indian foot Path which went by the Clove bridge (then a brook) to South Side, and the brook was a resting place—after that a Peace was made with the indians. Mrs. Mots Father Came over from Long Island with others kill^d. a Bull roasted him and the Indians Deliver^d. a shrub of Every kind Except the ash and one other sup^d. Alder they reserv^d. and Deliver^d. the rest with a Sod as a Conveyance and after that never Committed hostilities but came to make baskets & brooms. [This apparently refers to the purchase of Staten Island by Governor Lovelace in 1670.]

The first Settlement made by the Dutch was on Staten Island by the family of Rappelyea—and at long Island by the Walloons at the Wallabogt or Walloon bend from Staten Island they went to Capsey—at the old Battery at York—with little boats with Sails which Afterwards serv^d them for shirts as the first Shipping went back and was 2 years before they return^d which Distress the Settlers exceedingly they Cultivated but little—the Spanyards having learnt the Indians to Raise Corn—and the indians being Troublesom they moved to Capsey from the Island. [interlined: vid Prince's L. I. 359-60]

Mrs. Rappelye had a peice of a Dumplin left & hid it in the Chimney. The Children Crying for food their mother said when the people was gone they should have a peice of the

Dumplin—but the Gov^r had Seen & took the Dumplin which
 priv^d the poor Children of their sweet morsel the next Day
 Ship arriv^d. with provision and Cattle—then the Gov^r told
 er he had got the Dumplin this inrag^d the old lady that she
 drew her Knife & the Gov^r Gave her the Choice of the Cows
 to passify her for the taking the Dumplin.—the first Weat &
 ye was rais^d along Bargain in New Jersey—when was many
 Indians and on the first settlement built Stockaded forts and
 there till they made houses with port holes to fight them.
 [The tradition of the Rappelye settlement on Staten Island,
 above told, has been minutely studied by the late Royden
 Woodward Vosburgh who found some confirmatory evidence
 of the year 1638].

Staten Island taken orally from Judge Mersereau of Chen-
 go. Settled 1666. One of y^e 1st settlers John Teunisse Van
 Pelt. Philip Congee a Frenchman one of y^e early settlers
 the above mentioned Tuenisse Van Pelt, of him the following
 story is related. Gov^r Barnet was in y^e habit of renewing
 titles. One day rowing about y^e Island in his boat, & being
 kindly treated by the above man, he offered to give him a
 patent for a large tract of land on the Island. Van Pelt re-
 sisted!—say O Governor! what should I do with it? His grand
 children have since been paupers on y^e. town!

“ Wike-Ware the ancient seat of the Family De-la-ware,” in
 Gloucestershire. Camden's Britannia, London, 1695, p. 238,
 note

His Majesty's Own Life Guard.

160-1	Charles Lord Gerard of Brandon, Captain	
March	Col. Francis Lovelace	} Corporals
	& 3 other Colonels	

His Highness Royal the Duke of York's Life Guard
 (Charles Barkeley Deputy Governor of Portsmouth) Cap-
 tain

Robert Dongan	Lieutenant
origin and Services of the Coldstream Guards	
by Col. Mackinnon, Lond. 1833, I, 104.	

The Governours, or Deputy-Governours of

.

New York, Major Edmund Andros, succeeding Col. Francis Lovelace, who was taken prisoner there by the Dutch, afterwards by the Turks, and died of his Wounds.

The Present State of England, 1679 (N. S.) p. 294.

In the year 1610, Lord de la Warre, in a passage to Virginia, touched at the Capes of the Delaware, and the Indian name of the river, which was not euphonious, was changed out of compliment to this nobleman, to Delaware. Paper by Henry R. Schoolcraft, N. Y. H. S. Proceedings for 1844, p. 82.

The Lenapes consisted originally as they affirmed, of three tribes, the Unami, or Turtle, the Mississä, or Turkey, and the Minci, or Wolf. The two former must have been early blended as they are not known in their separate existence, under our history. The Minci, or Moncees, as they are more generally called, occupied the eastern parts of New Jersey from the seacoast, to the west banks of the Hudson, and up the same, keeping its west bank as high as the Wallkill. *Ib.* 82.

The whole of the sea coast tribes were semi-ichtheophagic. *ib.* 84.

Those who occupied the island of New York or Manhattan, together with Staten Island and the smaller group, called themselves Monatons or Manhattans, a term which it will be perceived was merely geographical. On the colonization of the country, these Manhattanese or Monàtons were found to be one of the numerous family of Mohegans. *ib.* 84.

On Map of Nova Anglia, Novum Belgium et Virginia on De Laets Novus Orbis I find Sandy Hook marked Godyns Punt & Raritan Bay Coenraed Bay, [interlined: apud Elzevirios N. Y. H. S.] [also interlined: seems to be the same of which De Laet himself speaks as of a map got up a few years ago (B III. ch. 8) Nov. Orb. 72. 2^d general map.] on it also N. Amsterdam & Manhattes.

[Seven following notes are quotations in Latin from pp. 70 and 72 of De Laet, not relating to Staten Island, and are printed in English in New York Historical Society Collections, new series, vol. I, p. 281 et seq. 1841.]

The Mohiccons, Mahatons, or Manhattans, occupied this and [interlined: N. Y.] and Staten Island. De Witt Clinton's Anniversary Discourse [interlined: Dec. 6, 1811.] N. Y. S. Collections p. 41.

A note to this passage at foot of same page concludes with the words:

'If we could ascertain from those papers (Mss. in plantation office, [interlined: referred to by Chalmers] called New York Entries, New York Papers) the nation that sold Staten and, it might produce some interesting inferences.'

Staten Island was purchased from the Indians by Col. Love-lee, second governor under the Duke of York, between the years 1667 and 1673. (Chalmers's Political Annals of the Colonies, p. 509). He refers to different manuscripts in the plantation office, called New-York Entries, New-York Papers, which appear to be voluminous: if we could, &c.

Atqvanachvkes on Jno. Smith's Map.

Ex adverso autem Manhattarum degunt Machkentinonii, & tra primum fluminis flexum ad caudem oram Tappaanes.

Bethlehem, Jan. 9. 1801.

I shall be able to give or transmit to you some authentic Information respecting the situation of the Indians at the arrival of the first Europeans at N York, I have been so fortunate to find among my Papers Notes taken between 30 & 40 years ago on this head. I shall attend to each of your Queries separately, though I am not qualified, or sufficiently informed to answer to you, yet I may perhaps add in throughing some light occasionally.—If my memory serves me I had in my last wished for the Indian Words or Names, & were yet in Memory, whereby I thought myself enabled to solve what Tribe or Nation had inhabited such part of the Country. That the Delawares never were conquered &c &c page 15

Hitherto all my labours have been fruitless in enquiring about a Nation or Tribe of Indians called the "Manhattos," or Manathones. Indians, both of the Mohicani & Delaware Nations assure me, they never had heard of any Indian Tribe which bore that name—York Island is called by the Delawares this Day "Manahattani" or Manahachtanink, I refer for a

· further explanation of this Word to the account already given of the arrival of the first Europeans at that place. The Delaware word for "Island" is "Manatey." The Monsey word for the same is Manachtey; further Meneen or Manahn Drink. Manachtia, to Drink—Manachtoak, they are Drinking. Answers to Queries respecting Indian Tribes &c addressed to Rev. Samuel Miller by Heckwelder

That y^e remarkable tradition just mentioned, has a reference to one of y^e first visits which y^e Europeans paid to y^e country in y^e neighbourhood of y^e city of New York, there is very little reason to doubt. We are left to conjecture at what time y^e visit was paid, & by what nation; & of course, to whom y^e Indians are indebted for y^e first introduction of spirituous liquors among y^m. It is probable y^t y^e vessel which so greatly alarmed y^e Indians was y^e Dauphin, commanded by John Verezzain, a native of Florence, who in the service of Francis I King of France, anno 1524, visited y^e American coast, somewhere in y^e neighborhood of Staten Island or Long Island. M. S. by Dr. Barton in N. Y. H. S. Miller Papers.

[Three short Latin quotations from De Laet p. 73 & p. 75 follow].

"According to Wassenaer, writing in 1624, . . . Brodhead in N. Y. H. S. Coll. 2^d ser. vol. 2. p. 360 From thence they kept along the coast until they got to 40 degrees and three quarters, where they found a good inlet between two headlands* into which they sailed on the 12th of September (it being) as beautiful a river as one could find ("cen alsoo schoonen Riviere als men konde vinden") wide and deep, and with good anchor ground.

"And again another Fort of greater importance at the mouth of the same North River, upon an Island which they call Manhattes or Manhatans Island, because this nation of Indians had happened to possess the same, and by them it had been sold to the Company. Translⁿ. by Brodhead of an Ex-

* "The Narrows" in Manhattan Harbour. Brodhead's Translation of an extract from "Verhael van de eerste Schip-vaert" &c Amsterdam. 1648. Coll. N. Y. H. S. 2^d series. vol. II. p. 369

act from chap. xi. of De Laet's History of the New world
Dutch Edⁿ. of 1630. ib. 2^d. ser. col. 2. p. 373.

Letters from Isaack de Rasières to Samuel Bloumaert, found
the Royal Library at the Hague, and transmitted by Dr. M.
A. G. Campbell Deputy Librarian to the N. Y. Historical
Society

Wassenaer "gives several very interesting particulars re-
pecting New Netherland, as early as 1623 and 1624." Brod-
ad in Coll. 2^d ser. II. 341.

On his arrival at N. N. de R became "Opper Koopman" p.
2.

Staten Island [interlined in red ink: Indians], we are in-
formed by De Vries, was occupied by the Mon-à-tans, who
called it Monocknong with a verbal prefix. The termination
-ong, denotes locality. Manon is the ironwood tree, ack
notes a tree, or trunk, and admits a prefix from "manadud"
d. By inquiry it 97/98 does not appear that the ironwood,
though present, ever existed in sufficient abundance to ren-
der the name from that characteristic.* The other, it is too
late to investigate. It is believed the expression had an im-
mortal meaning, and denoted the Haunted Woods. Paper by
Dr. Henry R. Schoolcraft in Proceedings of N. Y. H. S. for
1844. pp. 97-98.

Francis Lovelace. M. P. from City of Canterbury in 1661.
Parliamentary Register. Lond. 1741. p. 46.

The Lenape "on the Atlantic were subdivided into three tribes;
the Turtle or Unamis, the Turkey or Unalachtgo, and the
Wolf or Minsi. The two former inhabited the coast from the
Hudson to the Potomac, settling in small bodies in towns and
villages upon the larger streams, under chiefs subordinate to
the great council of the nation. The Minsi, called by the En-
glish, Monceys, the most warlike of the three tribes, dwelt in
the interior, forming a barrier between their nation and the
Delaware. They extended themselves from the Minisink, on
the Delaware, where they held their council seat, to the Hud-

M. S. Letter from R. M. Tyson, Esq.

son on the east, to the Susquehannah on the south-west, to the head waters of the Delaware and Susquehannah rivers on the north, and to that range of hills now known in New Jersey by the name of the Muskenecun, and by those of Lehigh and Coghnewago in Pennsylvania." p. 45. Gordon's History of Pennsylvania.

In Heylin's *Cosmography*, originally written in 1648. but continued by Edward Bohun to 1703, this (Delaware. C. A.) river is called *Arasapha*. Note. on p. 595 of/ id.

On the "West-Indische Paskaert" or chart, of 1621, "from the original on Vellum in the collection of E. B. O'Callaghan, LL.D" I find

Sandyhook	marked Sant Punt [cancelled]
Highlands	Rondeberg hoeck
Sant Punt—on S. shore of Long Island near past Rockaway	
Aquanachukes	in place
Lower Bay	Sand Bay
R. Achter Kol	in place
R. Mauritie	"

Staten Island pretty accurately drawn

No name for N. Y. island.

"Shakhoppsh" "Indian King" heads the signers of the Treaty with Wm. Penn for the site of Philadelphia. pp. 133. 134, *Memoirs of the Hist. Soc^y. of Pennsylvania*. III. 2.

The report made by Hudson to his employers led to immediate 33/4 plans of colonization, and the first European settlement in New Jersey was by Dutch colonists, probably about 1618, at Bergen. From the name, it is conjectured that among the colonists were enough Norwegians to impose upon the new settlement the name of their own capital. For sometime this was probably only a trading place for the Indians. The houses were placed near each other for mutual protection, while farms were cultivated around the village. To this day there reside at some of these farms the descendants of the race that there first entered upon the settlement of the wilderness, occupying the same grounds and possessing many of the peculiarities of habits and character which mark their ances-

rs. * * Whitehead Mss. chap. I. Charles King. Discourse
ay 7, 1845. Proceedings N. J. Hist. Soc. 1845. p. 66. 33 & 4
Memoranda from map in Colonial Documents, vol. I, which
may be the one referred to in the Octroy of the States Gen-
eral dated the 11th October, 1614," [interlined: granting privi-
ge of 4 voyages in 3 years from Jan. 1. 1615.] "or it may
ve been presented by Captain Hendricksen, when he made
s written Report, on the 19th August 1616." (taken from note
a left lower corner of Lithographed map in Hol. Doc. 1.)

Sandhook" in place

Aquamachukes" two villages, one on the Raritan river, the
her midway between it and Sandy Hk, on a forked river
us, E. side [a rough sketch]

obin's Reef indicated by [dots] not named.

Manhattes not laid down as an island. Immediately N. of it
Wikagijl" apparently a tribe—directly opposite to Manhat-
s on Jersey shore "Mechkenliwoom." Portion of Map to N.
Staten Island very incorrect, no Newark bay, there is One
ver only there represented as continuous with S. I. sound,
obably Passaic, on both sides of it "Sangicans," S. & W. of
echkentiwoom. N. W. of M. "Tappans" due W. of Wika-
jl.

This shore" (Singsing) was inhabited, during the times of
overnor Kieft by a band of the Manhattans or Mon-à-tuns,
lled the Sintsings, who sent a delegate to the general council
ld at Fort Amsterdam, on the 30th August 1645" N. Y. H.
Proceedings. 1844. p. 101. Paper by Henry R. Schoolcraft
"Aboriginal Names and Geographical Terminology" of
ate of N. Y.

Etymol. of Navesink. p. 105.

"The name of Nyack does not occur in records of the earli-
t period, for the position of the present town. The word is
und in an opposite Indian village of Kastonink. p. 107.

"This part of the Island, as far as Jamaica was inhabited by
e Canarsee tribe of Indians. The old Dutch inhabitants in
is county have a tradition, that the Canarsie Indians were
bjeet to the Mohawks, as all the Iroquois were called; and

paid them an annual tribute of dried clams and wampum. When the Dutch settled here, they persuaded the Canarsies to keep back the tribute; in consequence of which a party of the Mohawks came down and killed their tributaries whenever they met them. So great was the dread that these Indians afterwards entertained of the Iroquois, that when a party of the Iroquois, during the French war were taken prisoners and imprisoned in the Jail of this county, the Canarsies avoided them with the greatest care, and seemed to be afraid even to come where they should see them. The Canarsie Indians are at this time totally extinct; not a single member of that ill fated race is now in existence." Gabriel Furman. Notes Geog. and Hist. relating to the town of Brooklyn.

The Delawares had a great many towns in the Jerseys (or as they call this part of Country "Scheyichbi.")

The Delawares say "That when the Europeans first arrived at York Island the great Unami Chief of the Turtle Tribe resided southward across a large Stream or Bay of where Amboy now is. That from this Town a very long Sand-bar extended far out into the Sea. That at Amboy & all the way up & down these large Rivers & Bays & on the great Islands they had their Towns when the Europeans first arrived; & that it was their forefathers who first discovered the Europeans on their arrival, & who met them on York Island, after they landed. Heckewelder. Answers to Dr. Miller's Queries respecting Indian Tribes. Miller Papers. vol. I.

There are earlier accounts of the island—those of Wasse-naer, in his *Historische Verhael*, 1623 and 1624, and of De Laet, in 1625, 159–160, but De Rasier's letter &c N. Y. H. S. Proceed. for 1848.

They are very fond of a game they call "senneca," played with some round rushes, similar to the Spanish feather-grass, which they understand how to shuffle and deal as though they were playing with cards. De Rasier's Letter, pp. 346. 7 Coll. N. Y. H. S. 2^d ser. vol. II.

Mr. Peter Schagen to the States General; the Island of Mannhattans purchased. (From the Original in the Royal Archives at the Hague; File, entitled West Indie).

and Mighty Lords:

Yesterday, arrived here the ship the Arms of Amsterdam, which sailed from New Netherland, out of the River Mauritius, the 23rd September. They report that our people are in good heart and live in peace there; the Women also have some children there. They have purchased the Island Mattees from the Indians for the value of 60 guilders; 'tis 60 morgens in size. N. Y. Colonial Mss. I. 37 38. Received 7th November 1626 (In Amsterdam A.)

[quotation from Baird's Religion in America, 1856, p. 166, referring to Polish immigrants settling in Passaic and Raritan Rivers, among them descendants of John Sobieski now known as the Briskies]

Inside the front cover of Book H are written the following []:

De Laet's Description has been reprinted by Mr. Force, in his Collection of Tracts, vol. II.

Vitt Clint. Disc. Soc. Coll. II, 41, & Dunlap as to fierce Mattee on Staten & N. Y. Island.

Matthuchuk on John Smith's Map.

Mattons and Schoolcraft's Paper.

Mon's New View of the Origin of the Tribes and Nations of America No. 1798.

Graph of Map of 1618. and compare with Lucini.

Series—proof sheets—Monaton.

Matken Eyl.

Mat of opposite to the Manhattan dwell the Machkentiwoon Matenaer, date. N. Y. H. S. Coll. 2^d ser. 2. 355.

Matasieres—discovery. Campbell.

Matwelder. M. S. as to tribe called Manhattes—Delaware or Matveys inhabited—York island called to this day.

Matware word Muncy word for island.

Matreds of N. Y. Gravesend Pap. Sansecok.

Mat of the Harbor of N. Y. by Robert Erskine F. R. S. 1779.

Mat of F. de Peyster in Proceed. 1848.

Mat King Agapon tortured and put to death. Col. Doc.

Tessemaker † Proc. 46. 113.

Long Isl^d. Tel. & Hempst^d. Stegenies

Gov. Clinton's recommend^s. Translatⁿ. of Docmts. Hol. Doc. 1. 155. as to purchase by Minuit of N. Y. island from whom. Comp. Luini with Brodhead's. Rev. Dr. Strong Hist. of Flatbush.

[The back pages of Book H are used for additional notes with Cha^s. E. Anthon 60 Church St. and G. 2, on the fly leaf. The following pencil memorandum is also found inside the back cover.]

About twenty years ago, the late John Van Ness Yates, of Albany, associated with Joseph W. Moulton, Esq. now of Long Island, undertook jointly to produce a History of the State of New York. The first volume only was completed and published, being the work exclusively of Mr. Moulton. Sketches of Biographical Writers and their Works, of the State of New York, by William L. Stone, Proceedings of N. Y. H. S. for 1845, p. 85.

Near the present site of Fort Hamilton, and adjoining the Narrows, is a place called Nyack, which from the great quantities of stone axes, arrow-heads, and similar articles found there, is supposed to have been an extensive manufactory of these domestic and warlike instruments. The materials for these articles having probably been procured in the vicinity of Nyack in Rockland county, may have led to the adoption of the same name for this locality. Paper upon the Indian Names of Long Island by Benjamin T. Thompson, in id. p. 127.

This expedient had already been resorted to with success in the Italian wars. The celebrated Buontalenti of Florence (1536-1608), painter, sculptor, architect, and pyrotechnist, from his skill in which latter quality he was surnamed "dalle Girandole" had during the war with Vienna fabricated in a single night cannons of wood, which sufficed for opening a breach in a bastion of that city. Biographie Universelle. Art. Buontalenti.

I. In St. Pancras Church-yard, Middlesex.

The Right Hon^{ble} Thomas Dongan, Earl of Lymerick, died December the fourteenth. Aged Eighty one Years. 1715.

equiescat in pace. Amen.

monumenta Anglicana: 1700-1715: Ex Autog. by John Leve. London. 1717. p. 295.

St. Pancras (Old) Church.—situated to the north of London it was called St. Pancras when the Survey of Domesday was taken—It is of rude Gothic architecture, built of stones and masonry, which are now covered with plaster.—Mr. Lysons says, "It is certainly not older than the fourteenth century. . . ." The church and churchyard of Pancras have long been noted as the burial-place of such Roman Catholics as die in London and its vicinity.† Many of the tombs exhibit a cross, and the initials R. I. P. (Requiescat in pace), which initials, or others analogous to them, are always used by the Catholics on their sepulchral monuments. Mr. Lysons heard it assigned by some of that persuasion as a reason for this preference to Pancras as a burial place, that . . . Mr. Lyson's explanation of this preference to Pancras by the Catholics is, however, disputed by the author of Ecclesiastical Topography, who observed that a reason more generally given is, that "Pancras was the last church in England where mass was performed after the Reformation." Mirror. London, 1832. vol. xix. pp. 289, 290.

Old St. Pancras, built in the twelfth century, is one of the churches mentioned in the Domesday Survey. The Churchyard is small, but excessively crowded with ancient monuments, the majority being Catholic. Memories of the Great Metropolis. p. 247. N. Y. 1852.

(At Westminster Hall. C. A.) near the steps leading to Westminster bridge was the "clock-tower," supposed to have been the prison of Richard Lovelace [interlined: vid. E. 2. p. 110], the poet, who was confined by the Parliament of Cromwell, for presenting a petition from the county of Kent, praying for the restitution of the King to his rights. While in captivity he wrote his beautiful song to "Althea from Prison." p. 110-111.

Curious particulars relating to Hurley, in Berkshire, the seat of the Lovelaces, in London Mirror. p. 149. vol. 19.

† Strype, in his additions to Stowe, says, the Roman Catholics have lately affected to be buried at this place.

II.

Here Lyes
 y^e Body of Evjenea
 y^e Wife of Thomas
 Billopp Aged 23 years
 Dec^d. March y^e 22^d.
 1735.

Here Lyes y^e Body of
 Thomas Billopp Esq^r:
 Son of Thomas Farmar
 Esq^r: Dec^d: August y^e
 2^d 1750 In y^e 39th
 year of his Age

[interlined: A. i. p. 71-72.]

Two Head-stones standing side by side, as represented above, in the family cemetery at Bentley. The one in memory of Eugenia Billop is surmounted by the head and wings of a cherub, that in memory of Thomas Billop by a death's head with wings. The material of both is brown sand-stone.

The cemetery is situated some 300 yards to the East of the old manor house. It consists of a small mound, overshadowed by an apple tree and three straggling wild cherries, and was almost surrounded when I saw it on the 23^d. of Aug^t. 1853, by a field of Indian Corn. There have been two other trees on the spot which are now cut down; and their stumps only remain, one, of great size and shown, by the fresh growth sprouting from it, to have been a wild cherry, the other, much smaller and affording no indication to what species it belonged. There are two small spaces enclosed by wooden palings, and in one is a small rude head-stone with no inscription. There are no other head-stones, that can be recognized as such, besides the three already mentioned.

The view from the spot is beautiful, comprising the whole of Raritan and Sandy Hook Bays with their bordering highlands from the mouth of the Raritan to Navesink.

It is rather singular that no stone marks the spot where the first Christopher Billop lies buried. There is a very heavy stone, lying on one of its flat surfaces at the S. E. corner of the mound. This stone has been formed by the hand of Nature into a rude resemblance to a head-stone, being tolerably smooth on its edges and surfaces, and coming to a point at one end. It struck me that it might have been brought here to be set up as a monument for the old Captain, and the design might have been afterwards relinquished, from forgetfulness or want of time. [Capt. Billop died in London, 1725.]

Inscriptions and Monuments in the Moravian Burial Ground.

1. In Memory of Richard Conner who departed this life Febru^r. the 1st. 1792 aged 69 Years (verse of a hymn)

2. In Memory of Catharine Wife of Richard Conner who died June the 24th. 1787 aged 62 Years & 4 Mon^s. (verse of a hymn)

3. Here lyes y^e Body of m^{rs}: Rachel Wife of M^r Thomas Dongan Dec^d. April y^e 25th 1748 Aged 24 years (verse of a hymn)

4. Ruth Dau^r. of Tho^s: & Rachel Dongan Aged 3 year^s. & 7 m^o: & 2^d: Dec^d; Dec^r: y^e 22^d: 1749.

5. In Memory of James Stoutenburgh who departed this life March 13th 1808 Aged 49 years M Mons. and 3 days

Affliction sore four months he bore
phisation was in vane
Til God alone did here his morn
And eased him of his pane.

6. Here lies y^e Body of Judith Wife of Gozen Ryerss who died Sept^r. y^e 30th Anno Dom. 1776 In the xxxi Year of her Age

The Wife must Kind
A Parent dear,
A Christian friend,
Lies buried here.

7. In Memory of Lewis Ryerss, who departed this Life the 13th of April 1806, Aged 51 Years 4 Months and 6 Days (verse of a hymn)

8. In memory of Nicholas Stilwill, who departed this life April 26th, 1819: aged 72 years 3 months and 19 days. (verse of a hymn)

9. Here Lies the Remains of Aaron Cortelyou who departed this Life August 22^d. 1789 in the 63^d. Year of his Age

10. Here Lyes y^e Body of Coll: Nichlos Britten Aged 61 years Dec^d. Jan^{ry}. y^e 12th 1740

Here lies a man of tender hart
 unto the poor in Every part
 He never sent the poor away
 Which well is none unto this Day

11. Here Lyes y^e Body of Frances wife of Co^{ll}: Nicholas Britton Aged 66 years Dec^d: May y^e 7th 1748

this woman that is buried here
 this County has known many a year
 A loving mistress a faithfull wife
 A Tender mother all her Life.

The history of DeVries is, in the absence of any known biography, to be gathered by us from his book. He was born at Rochelle, in 1593, whither his father went from Hoorn, after the murder of William of Orange in 1584. His mother was an Amsterdam woman. When he was four years old his parents returned with him to Holland. He appears to have been married before 1620. He made six voyages; the first of which was undertaken in 1618, when he sailed to the Mediterranean for a cargo of grain, returning in about a year's time. During that voyage he was attacked by several Turkish galleys near Cephalonia, but succeeded in repulsing them. In June, 1620, he sailed from the Texel, bound to Newfoundland, for fish—thence to the Mediterranean. He arrived at Newfoundland the last of July. We give here that portion of his journal of this voyage relating to his stay on the American coast, as illustrative in some degree of the nature of the Newfoundland fishery at that time, and as really an American voyage, though not so classed by the author. [interlined: p. 4] Set sail Sep. 10. from American coast—The 30th Cape St. Vincent hove in sight. Oct. 10th., off Carthagena in Spain, encountered 8 Turkish ships, commanded by a Dutch renegade, named Veenboer. Fought two of them, one 28, the other 33 guns, from 250, the other 300 men, his own having only 14 g & 30 m. till towards night when Veenboer was killed & the pirates hauled off. De Vries entered bay of Carthagena, sold his fish, and remained till Jan. 10. 1621, then sailed for Tabareka for a load of grain;

hence to Genoa, and thence to Toulon, July 12th. (p. 7) made contract with D. of Guise, admiral of France, to serve by the month, & continued in his service till Dec^r., declining then to fight against Rochelle. Duke gave him a diamond ring in parting. After freighting some time in Mediterrⁿ., heard of death of two of his partners in Holland, sold his ship & set out for (? from) Marseilles by land for Dieppe, when he took ship & arrived at Rotterdam, Aug. 1623. Prepared, in following spring for a voyage to Canada which led to a controversy with the W. India Co. in consequence of which he was compelled to discharge the crew at a great loss, and sell the small vessel which he had bought for the purpose. Sailed for Havre de Grace, from the Maese, July 25th, arrived there 28th, reached Paris Aug. 4. 7th. set out for Rochelle, arrived 15th staid 3 weeks, arrived at Bayonne via Bordeaux Sep. 8, hired "Bascano" & bought a ship, & sent both to Rochelle to fit out for a fishery. Proceeded to Rochelle & remained till April 1625, when a tumult arose, & his ship was taken into the service of the King of France. March 1627, went with 7 ships as captain to the E. Indies, & returned in June 1630. After being some about two months his attention as directed to New Netherland, as detailed in the following pages.

I then sent my boat back, in order to let my ship come in, which was five miles from there, and a young man, who might pilot her in, who had formerly, when I went to the East Indies, been in my service. When my boat was about half an hour from the ship, there arose a thunderstorm, which they could not weather, and the boat got full of water, and drove for two nights and three days at sea. I wondered very much why my ship delayed so, with a good wind, with which she could sail in three hours. I sent one of the Company's yachts on board, which the next day but one, came sailing in with the ship; and then came an Indian from the island* (*note. Long Island) to the fort, bringing news that my boat had [interlined: 75-76] gone ashore, and that the young man, Flips Jansz, of Haerlem, was in it, and that they had found him lying one fathom or two from the breakers, and had brought him to their wild houses, as he was entirely exhausted, and that the other five

men from the ship were lost. The boat the Indians had hauled up on the land.

The 5th, the young man, who had been so wonderfully saved, came to the fort; and he told us, that when he encountered the travado, there were two Frenchmen in the boat, who betook themselves to the sea, when it was full of water, intending to swim aboard (of the ship), but they were never seen again. The first night, as they were [Here Book H comes to an abrupt end.]

Book I

[The inside front cover bears the inscription Cha^s. E. Anthon. Nautilus Hall Staten I^d. and miscellaneous notes, as follows.]

Quotation from Hist. of Chivalry by Chas. Mills. Lond. 1826. vol. 1. p. 48. [no relation to Staten Island]

N. York Currency

	£.	s.	d.
Milled Dollar		8	
Crown		8	
English Shilling		1.	6
Doubloon	5.	16.	
Single Johannes	3.	3.	
Moidore	2.	5.	
Pistole	1.	9.	
Guinea	1.	16.	

Nathaniel Ames' Almanac. Boston. 1762

Route from N. Y. to Phil^a. with Stopping Pl^s.

New-York, Hull, Across the Bay to Staten-Island, Douglass, Over the Ferry to Elizabeth Point, Arnot, Eliz.town, Woodbridge, Brunswick, Princeton, &c.

Benj. West's N. Eng. Alm^e. Prov^{ce}. 1780

The Stage Boat for Amboy sets out from the Whitehall Slip, in New-York, on Mondays and Thursdays, Wind and Weather permitting, and the Passengers that go in her generally arrive at Philadelphia on Wednesdays and Saturrays.

The Fare for a Passenger from New-York to Amboy s.2. 0

From Amboy to Bordentown in the Waggon,	4. 0
From Bordentown to Philadelphia,	1. 6
For Goods from New-York to Amboy, per C. Wt.	1. 0
Goods from Amboy to Bordentown, per C. Wt.	2. 9
From Bordentown to Philadelphia, per Ditto.	1. 0
From Amboy to Burlington in a Waggon,	5. 0
From Burlington to Philadelphia in a Boat,	1. 0
Goods from Amboy to Burlington, per C. Wt. Waggon,	3. 6
From Burlington to Philadelphia, per Ditto.	1. 6
Hutchin's Almanac. New York. 1767.	

Bridge

Old Place

Marks" just opposite Buckwheat island. A. S. supposes so called from Marquis Decker, so called. [More likely from it being a creek on land of Mark Disosway.]

Tunis

[A quotation(?) from an unnamed source relating to war with Spain in 1762.]

In the List of "Supplies" "granted by Parliament for the service of the Year 1756" appears

Towards defraying the charge of 6544 foot, with the general officers, and train of artillery, the troops of the Landgrave of Hesse Cassel, in the pay of Great Britain, from Feb. 23^d 1756, to Dec. 24th 1756, both inclusive; together with the subsidy, pursuant to treaty, £163.357 .9 .9." Beatson's Naval & Military Memoirs.

Nothing now remained for the two brothers but to act decisively in their military capacities; and the first blow to be struck was to drive out the [Here this note abruptly ends].

The next Government is New-York; the City of New York, their Capital; and is said to contain 5000 Houses, they abound in all Sorts of Provisions, which they export, and in return bring the best Madeira, which by the better sort is ranked freely in the City; the Number of their Inhabitants is set at 100.000 and their present Governor is His Excellency Sir Charles Hardy, Knight. Nathaniel Ames' Almanac for 1756. Boston.

This story is considered suspicious by Brodhead. History of the State of N. York. Vol. 1. p. 54 & note E. p. 754.

: he (sir Samuel Argole, governor of Virginia. A.) therefore compelled the Dutch colony to submit to him, and to hold it under the English. But sometime after a new governor coming from Amsterdam, they not only neglected to pay their usual acknowledgment to the governor of Virginia, but in the year 1623, fortified their colony, by building several forts: one on Del^o. one on Hudson one on Connect^t. Samuel Smith's History of New Jersey. Burlington. 1765 pp. 19.20.

Hudson's River lying near the sea, and the navigation esteemed less difficult than the other, their settlements were chiefly on both sides of that river; at the entrance of which the town by them also called New Amsterdam, was built; *ibid.* p. 20.

The county of Bergen was the first settled place, a great many dutch being already there, when the province was surrendered, remained under the English government. A few Danes were probably concerned in the original settlement of this county, whence came Bergen after the capital of Norway. The manner of originally settling is singular, but small lots where their dwelling houses are, and these contiguous in the town of Bergen: Their plantations which they occupy for a livelihood, are at some distance; the reason of fixing thus, is said to be through fear of the numerous Indians in the early times of their settlement, about forty or fifty years before the surrender: *ib.* p. 61.

It was in 1664, that John Bailey, Daniel Denton, and Luke Watson, of Jamaica, on Long Island, purchased of certain Indian chiefs, inhabitants of Staten Island; a tract or tracts of land, on part of which the Town of Elizabeth now stands; [*interlined*: Vid. D. 1. p. 4. For an account of Daniel Denton, author of "A brief Description of New York," see that work, republished by Wm. Gowans, N. Y. 1845. p. 15. ff. *Introduct.* & Thompsⁿ. L. I. 2. 97. For a full account of the family of Denton, see the History of the town of Hempstead in Thomp-son's L. Isl^d.] and for which (on their petition) governor Richard Nicolls granted a deed or patent to John Baker of New

York, John Ogden, of Northampton, John Bailey, and Luke Watson, and their associates; dated at fort James, in New York, the second of December. [interlined: Vid. Thompson's Long Isl^d. 102. 103. Vol. 2. & D. 1. 4. 5 where the boundaries are more correctly given.] (Note, This is what is commonly called the Elizabeth-Town grant) This was before Lord Berkely's and sir George Carteret's title was known; and by this means, this part of the province had some few very early settlements, whether Middletown and Shrewsbury had not Dutch and English inhabitants before, we are not authorized to say. *ib.* 62.

The Governor, Philip Carteret, "took up his residence at Elizabeth-Town, to which it is said he gave the name, after Elizabeth, wife of sir George Carteret: *ib.* 67.

The province of East New-Jersey being now well settled for the time; (1682) its situation reduced to a general view, from the accounts then published by secretary Nicolls of New York, appears to be this: p. 157 Several plantations were settled on the north side of Raritan river, below Piscataway; several also higher up Rariton, and about the Falls; among which John Palmer, of Staten Island, p. 158 and Capt. Corsen, had settlements: Woodbridge had several improved plantations in it, and the country round; Delaplairs, the surveyor general, was one of the settlers here: This town claimed more privileges than others; was incorporated by charter, and had erected a court house and prison (such as they were). There were here about one hundred and twenty families; a large quantity of land in the town, and for the plantations round, many thousand acres; of which plantations there were several on the north side of the river that divides Elizabeth-Town and Woodbridge (p. 158.) At the entrance of the creek, on the north side, called Carteret's Point, north of Staten-Island, were other plantations, from Elizabeth-Town to the bounds of New-York: p. 159. *ib.* pp. 157. 158. 159.

There was a considerable settlement on Bergen Point, then called Constable Hook, and first improved by Edsall, in Nicoll's time. Other small plantations were improved along Bergen neck, to the east, between the point and a little village of twenty families. *ib.* 160

[The following five pages are devoted to further extracts from the same work, having no relation to Staten Island].

[A quotation from Hazard's State Papers, Phil^a. 1792, I. 520, relating to Mohawk Indians].

In 1577, the crown was in possession of the site of this monastery, (Ennis Abbey in the County of Clare) a mill on the river Fergus, and the eel and salmon wier, with some houses and gardens in the town; and on the 1st of June, 1621, it was granted to William Dongan, Esq. Grose's Antiquities of Ireland. London. 1791. vol. 2. p. 42.

Dongan) For an account of the services rendered to the royal cause in Ireland during the usurpation, by the father and brother of this Lord Dongan (or Dungan), and for which he was created a Viscount, see Carte's Life of Ormond Vol. II. p. 285, 286. Another Lord Dongan, probably a brother of the subject of this note, accompanied King James from France into Ireland, in 1689. Memoirs of Grammont. Translated from the French. Lond. 1809. vol. II, p. 299

Note to p. 228.

Being unable to find this work in New York, I addressed a letter to Thaddeus W. Harris Librarian of Harvard, in the catalogue of which institution I saw the name of the work, asking him to copy this account for me and also to communicate such other information as he might be possessed of with regard to the Dongans and received the following answer.

Public Library of Harvard College,
Cambridge, Mass. July 31, 1851,

Mr. Charles E. Anthon,

Dear Sir,

Your letter of the 15th July, rec^d. on the 18th, arrived during my absence. I have extracted the passage from Carte's Life of Ormonde, Vol. II, p. 285-286. In Clarendon's Correspondence, 2 vols. 4 to. Lond. 1828 there is mention made of Walter, Viscount Dungan, son of the Earl of Limerick, Vol. I. 305, 333, 343, 454 note, 566, Vol. II. 24, & 512. I cannot at present refer you to any thing else concerning the family.

Respectfully y^{rs}.

Thadd^s. W^m. Harris.

The passages referred to in Clarendon's Correspondence will be found extracted in Book E. pages 39 ff.)

Sir Walter Dungan in 1645 came out of England to the Duke of Ormonde, with letters from the King, signifying his regard of the remarkable services performed by him and his father Sir John Dungan, from the beginning of the wars in that Kingdom, and recommending him as a person specially meriting trust and employments. There was at that time no occasion of employing him in the quarters about Dublin, and the Cessation being then in force, but opposed by several persons and parties, the Duke of Ormonde gave him a commission to raise some forces, and to join with General Preston for suppressing and reducing the Cessation-breakers. He was engaged in this service at Roscommon, when the Peace in 1646 was published and accepted by Preston and his Army. But the same being rejected by Owen O Neile and his party, with whom afterwards Preston joined, Sir Walter then sent to the Lord Lieutenant for directions how to dispose of himself, and was ordered to remain among the Irish, as of Preston's Army, and hopes he might be useful on a favourable opportunity to reduce them to their obedience. Preston having afterwards, with O Neile and the Nuncio, advanced to besiege Dublin, Sir Walter by the Lord Lieutenant's directions remained among them to prosecute such designs as were by his Excellency entrusted to his management; and in order thereunto, he was instrumental in procuring Preston to desert the Nuncio and O Neile, and to sign an instrument of submission to his Majesty's Authority. From that time, till the withdrawing of his Majesty's Authority from the Kingdom, Sir Walter, pursuant to his instructions, constantly corresponded with the Duke of Ormonde, and upon his departure out of the Kingdom, the said Sir Walter Dungan, Sir John his father, and his brother William Lord Dungan [interlined: Gov. Thos. Dongan was brother of Walter & W^m. D. 1. p. 31. A Thos. Dongan mentioned, Just. of King's Bench, afterwards Baron of the Exchequer F. 2. 12. 13.] having made application to him to know his pleasure how to dispose of themselves in his absence to the best advantage of his Majesty's service, his Grace considering

the distracted condition of that time, and the necessities whereunto his late Majesty's affairs and Person were then reduced; and being well assured of their loyalty and good affections to his Majesty's service, whereof he had good experience, directed them to make themselves as considerable among the Irish as they could, and to get and keep an interest among them, thereby to become serviceable to the King at the Lord Lieutenant's return to the exercise of his authority in that Kingdom, and to use all means and ways conducing to those ends; whereof at his return they gave him a faithful account, having at that time in 1648 brought him a regiment of horse commanded by the said Sir Walter, wherein his father and brother also served in his Majesty's Army. They were all valiant, active, and faithful. Sir Walter was wounded and taken prisoner in the service; but being after released and appointed Commissary-General of the Horse, he held out against the Usurper, till enforced with the rest of his party to transport himself according to articles into Spain, where he gave signal testimonies of his duty, affections, and loyalty to his Majesty's service; in a sense whereof, and of the services done by him, his father (p. 286) and brother, the King promised him the dignity of Viscount, and accordingly gave it to his brother William Viscount Dungan. When the innocency of these persons came to be tried before the Court of Claims, the Duke of Ormonde thought himself obliged to give this account of their services, and to certify the Commissioners, that from time to time their appearing in arms, or acting with any person or persons engaged in the said Rebellion, was by his directions and command, as Lord Lieutenant to his late Majesty, and in order to his service"

— "Dongan corresponded duly and constantly with the Lord Lieutenant, and had his directions on every particular occasion. No particular act of hostility or opposition to either of the Peaces was ever objected to Dungan; all that could be misinterpreted in his conduct was his continuing in Preston's Army after he had rejected the Peace of 1646, and it was so well known how serviceable he had been in contributing to both those Peaces, that the very possessors of his estate al-

red it, and confessed his merit in that respect.—In the certificate for Dungan, the series of his actings, the time and circumstances thereof are distinctly represented by the person who knew them best.”—p. 286.

The following 46 pages of Book I are filled with quotations from “Political Annals of the Present United Colonies, from their first Settlement to the Peace of 1763: &c.” by George Charlton. 40. London. 1780., and contain only one reference to Staten Island, viz: The most memorable act of the administration of Lovelace, was the purchase of Staten Island from the Indians, which shews how far the settlements had been then extended around the capital, p. 599. Note].

In a Scrap Book, in the N. Y. Hist. Soc. Lib. marked on the cover, “Long Island in Olden Times, 1662 to 1826,” compiled and presented by Henry Onderdonk, Jr., I find at p. 91, under the heading, “New-York in Olden Times,” but the source not noted,

On Thursday last [interlined: Sept. 7, 1713] Dr. John Livingston was killed in a duel here with Mr. Thomas Dongan, who, on Saturday last, was tried in the Supreme Court and found guilty of manslaughter.—Sept. 12, 1713.

p. 77.
Feb. 8, 1815. The elegant house of the late Isaac T. Reeve, Plainville, formerly the property of Col. Ludlow and formerly the residence of Gov. Dongan, was burnt on Sunday evening last. The fire caught from an opening in the bricks of the chimney which had just been burned. (N. B. Searched various papers of that date and thereabouts without success.) The place seems to be the same one mentioned in Thompson's Hist. of Long I^d. vol. II. p. 61. under the name of Hyde Park. but see p. 75. of Scrap Book.

Suivant les anciennes chroniques, cette île, (de Wight. A.) à quelques centaines d'années, était si bien boisée, qu'un homme pouvait la parcourir dans tous les sens en sautant d'un arbre en arbre. Revue des deux Mondes vol. 4 pr 1851. p.

The Gazette does not announce the actual departure of any of the Ships from Charlestown Harbour. The want of water

will oblige them to be as expeditious as possible. They may accomodate themselves, with that article on Staten Island—and nowhere else with safety—that I know of—to the Southward of that. Letter from Ralph Izard to Claude Crespigny. dated Richmond, August 31, 1776. Izard's Correspondence. N. Y. 1844. p. 224.

In "A Tour in the United States of America:" &c. by J. F. Smyth, Esq. 2 vols. London. 1784. I find, page 389. vol. 2. after a commencement of the description of Staten Id., containing nothing of interest.

Like Long Island, the north side of this also is high land, broken and stony, while the south side is low and level. The soil is more light, and not so fertile as upon Long Island. 389-390.

On Staten Island there is but one town, which is named Richmond, and it is the county town and principal place on the island. At the Narrows, next to Long Island, the land is very high, and commands an extensive view of land and water, and very beautiful prospects.

This being the place of residence of my poor old fellow-prisoner Abraham Wynant, whom I left dangerously ill in Baltimore when I effected my escape, I called at his house to make enquiries concerning him; and greatly to my surprize and satisfaction found him there himself, where he had arrived long before I had got on board the Preston.

He informed me that he was indebted to the people of Baltimore for his liberation, who had exerted themselves in his behalf for that purpose, on account of his ill state of health, and quiet inoffensive conduct.

Poor Wynant was happy beyond measure at seeing me, having understood that I had been killed during my escape. 390-391.

This Smyth, with two others named Connolly and Cameron, had been apprehended, in the latter part of Nov^r. 1775, in Frederick County, Maryland, by the Committee of Inspection of that County, for being engaged in a secret enterprise hostile to the American cause. (Same work & vol. pp. 427 & 243-256.)

escaped, (p. 260.) but was retaken, (p. 269.) & conveyed to Philadelphia, (pp. 270-281.) The British army approaching Philadelphia through the Jerseys, (p. 297.) the prisoners (20 all) were removed to Baltimore. (p. 299.)

They put us in irons, every two chained close together, and with a guard of sixty chosen Dutchmen (Germans), set out on 29-300) the march to Baltimore on foot, crossing the Raritan kill, going through Derby, and that night lodged us in a common goal at Chester, without taking off the irons at . . . Yet in this condition, with fixed bayonets they forced to march on until ten o'clock each night, . . . The names of several of my fellow-prisoners were, . . . Mr. Abraham Wynant, of Staten Island, New York. Here Smyth passed Christmas, 1776, (p. 317) and escaped on the 10th of January following (p. 318). Wynant was left sick (p. 319) Smyth succeeded in getting on board the Ship Preston (p. 347.)

His (David Jamison's, Chief Justice of the Supreme Court of New Jersey. (p. 91.) associate upon the Bench was Thomas Farmar, of whom, as he subsequently became Chief Justice, I may have occasion hereafter to speak. Field's Provincial Courts of New Jersey. New York. 1849. p. 92. [interlined: A Bernardus Lagrange is mentioned in the "Provincial Courts of N. Jersey," perhaps the father of Mrs. Col. Edw^d. Morgan.]

In 1728, after having been Chief Justice for about three years, Thomas Farmar was appointed to succeed him. (Robert Hooper (p. 126). Farmar had removed from Staten Island [interlined: Tho: Farmar mentioned as sitting on a Court of Sessions on Staten Island in 1711. D. 1. 178.] to America, about the year 1711, and was soon afterwards appointed Second Judge of the Supreme Court, in place of Lewis Morris, although his name appears (126-127) among the Judges of our Supreme Court, never, I believe, took his seat upon the Bench, having soon after his appointment removed to New York, where he was made Chief Justice . . . Farmar represented for many years the county of Middlesex in the Assembly and was an active and influential member of that body.

At that time, (127-128) there was nothing incompatible in a Judge of the Supreme Court having a seat in the House. He officiated as Chief Justice from March, 1728, until November Term, 1729, when Robert Lettice Hooper was again appointed. Farmar was for some years insane, and was frequently obliged to be kept in close confinement; and this may have been the reason why he was removed from the Bench.

The eldest son of Thomas Farmar married the daughter of Captain Christopher Billop, an officer of the British navy, who had succeeded in obtaining a patent for a large tract of land on Staten Island, containing between one and two thousand acres. Young Farmar, upon his wife's inheriting this estate, adopted her father's name, and, as Christopher Billop, became a very noted character during the revolutionary war. [interlined: This seems to be incorrect. Christopher Billop was probably the son of Thomas Farmar who married Eugenia Billop: Vid. G. 2. p. 2 & Purple Book 85. 86.] He commanded a corps of New York loyalists, [interlined: Colonel of the Militia of Richmond County in 1777. C. 7.] and upon one occasion, was taken prisoner by the Whigs, and confined in the jail at Burlington. The late Elias Boudinot, then commissary of prisoners, was constrained to treat him with great severity, in retaliation for the cruel treatment of two Whig officers* who had fallen into the hands of the royal troops. [interlined: On the night of Friday. June 5. 1778. by Nathaniel Fitz Randolph (C. 41.) who was himself captured by Capt. Ryerson at Woodbridge, Monday Ev^g. Feb. 8. 1779. (vid. C. 46). Col. B. was at liberty March 22^d. 1779 (C. p. 53) & returned from the confinement in which he was so cruelly treated in January 1780 (C. p. 62). He was therefore twice prisoner.] Irons were put on his hands and feet, he was chained to the floor of a close room, and fed on bread and water (128-129). His residence on Staten Island was well known as the old Billop house. It was here that Lord Howe met Benjamin Franklin, John Adams and Edward Rutledge, a Committee of Congress, in the vain hope of adjusting the difficulties between the Colonies and the mother

* Leshier & Randall. Red B. p. 121. John Loshier taken prisoner Friday Jul. 23^d. 1779. (C. 56).

country. [interlined: there is not a more thoroughly jumbled mixture of good and bad qualities in any hero of the National pantheon than in John Adams. Yet we predict the Alleghanies will disappear before the name of old "Sink or Swim" will cease to be a household word, or will cease among liberal men to be loved wherever it is pronounced. Randall's Jefferson. I. 163.] After the peace, Billop's estate was confiscated, and he went to the Province of New Brunswick, where he became a member of the House of Assembly, and of the Council, and for many years bore a prominent part in the administration of its affairs. He died at St. John's, in 1827, at the age of ninety. (Note at foot of the page. Sabine's Am. Loyalists, 160.) Ibid. pp. 126, 127, 128, 129.

In a note to the words "You say that Captain Billop will sell (216-217) his plantation on Staten Island," occurring in a letter of Sir John Werden to Gov. Dongan, dated Aug. 27. 1684. (a M. S. copy of which I have made elsewhere) I find: (foot of p. 217) There is a tradition that Billop received this plantation (extending originally over a large portion of Staten Island,) as a *douceur* from the Duke of York for his gallantry in some naval engagement. Whitehead's East Jersey under the Proprietary Governments. 1846. pp. 216-217.

Was the Thomas Lovelace, a prominent tory, hung by the Americans, near Saratoga, as a spy, traitor and robber, mentioned in Lossing's Field Book of the Revolution, pp. 92 & 93. Vol. I. any relation to the Lovelace of Staten I^d. Lossing says that Saratoga was this Thomas Lovelace's native place. p. 92.

Thomas Arrowsmith, of Richmond, is mentioned as one of the captains of the New York troops engaged in the expedition under Col. Bradstreet which captured Fort Frontenac in 1758. Lossing's Field Book, Vol. I. p. 215 & n. 2.

Sir Peter Warren married Miss Watts. Ib. p. 232. note 2.

A fine portrait (wood-cut) of Gen^l. Sullivan. Ib. p. 272 & a biographical sketch of him, note 1, at the foot of the same page.

A portrait of Hendrick Hudson. Ib. p. 301. The note (2) at the foot of the page is as follows:

This picture is copied from a painting said to be from life.

now in the possession of the Corporation of the city of New York, and hanging in the "Governor's Room," in the City Hall. It was in the old Stadt House, and was in existence in Governor Stuyvesant's time."

A biographical notice of Hudson, note 3; foot of p. 300.

"Eight curious pieces of ordnance were mounted upon the ramparts of Fort Orange, called by the Dutch, according to Van der Kempt, *stien-gestruken*, or stone pieces, because they were loaded with stone instead of iron balls. These cannon were formed of long stout iron bars laid longitudinally, and bound with iron hoops. Their caliber was immense. *Ib.* p. 301. note 1.

Wampum is made of the thick and blue part of sea clamshells. The thin covering of this part being split off, a hole is drilled in it, and the form is produced and the pieces made smooth by a grindstone. The form is that of the cylindrical glass beads called bugles. When finished, they are strung upon small hempen cords about a foot long. In the manufacture of wampum, from six to ten strings are considered a day's work. A considerable quantity is manufactured at the present day in Bergen county, New Jersey. *Ib.* note 1. p. 303.

[Note on the burning, Jan. 25, 1780, of the academy at Newark. *Ib.* p. 305.]

[Notes on the First Presbyterian Church, Elizabethtown. p. 326, and campaign in New Jersey. *Ib.* p. 308. 307.]

Some account of Sterling's expedition to Staten Island. "ostensibly to procure provisions" "It was a starry night" "The snow was three feet deep" "five hundred of the party were more or less frozen" *Ib.* p. 311.

During the meeting at Morristown in 1781, "Sir Henry (Clinton A.) requested them (the insurgents. A.) to appoint agents to treat with his and adjust the terms of a treaty; and, not doubting the success of his plans, he went to Staten Island himself, with a large body of troops, to act as circumstances might require. *Ib.* p. 312, 313.

[Sketch of General Knyphausen. *Ib.* note 2. p. 321, 322].

[Notes on Battle of Springfield. *Ib.* pp. 322, 323, 324.]

At midnight June 23 the enemy began crossing over to Staten Island on a bridge of boats, and by six o'clock in the

morning they had evacuated Elizabethtown and removed their bridge! Report of General Greene to the commander-in-chief. p. p. 324.

[The three following pages contain further quotations from crossing, relating to Elizabethtown. Ib. p. 329].

[Then follow quotations from Lives of the Queens of England, by Agnes Strickland, Phil^a. 1847, having no reference Staten Island.]

The following is one of the spirited letters addressed by General Sullivan to the President of Congress, at the time his enemies had succeeded in influencing a portion of the Representatives against him Camp on Perkiomy, Sept. 27, 1777. Much Esteemed Sir, I have long been soliciting for a court of inquiry into my conduct in the expedition against Staten Island. I had applied to the commander in chief for one before. I know Congress had ordered it, but such has been the state of our arms, that I have not been able to obtain one, and know not when I shall have it in my power. I however take the freedom to transmit Congress copies of the testimonies I mean to lay before the court, which I beg Congress peruse, and they can be at no loss what must be the result of an impartial court. I am, however, happy in the assurance, that the evidence will remove every suspicion from the minds of the members of Congress, and from the court, if ever I could be so happy as to obtain one; and I shall take the proper steps to remove the effects from the minds of Americans at large. I was ever at a loss to find what great evil happened from this expedition, unless a spirit of enterprise is deemed a fault; if so, I think it will need but few resolves of Congress to destroy what remains of it in our army.

In this expedition, we landed on an island possessed by the enemy; put to rout six regiments, killed, wounded and made prisoners at least four or five hundred of the enemy; vanquished every party that collected against us; destroyed them great quantities of stores; took one vessel, and destroyed six; took a considerable number of arms, blankets, many cattle, horses, &c.; marched victorious through the island, and in the

whole course of the day, lost not more than one hundred and fifty men, most of which were lost by the imprudence of themselves and officers. Some few, (208-209) indeed, were lost by crossing accidents, which no human foresight could have prevented. Historical Collections. Concord. 1823. Vol. II. pp. 208-209. [The above wording is not quite as in original letter]

The remainder of this letter (pp. 209, 211, 212, 213, 214) is very interesting but makes no further particular mention of Staten Island. In the same publication Vol. III. 1824. p. 210, 211, 212, is an interesting "Tale of the Revolution," called "Frank Lilly" the scene of which is near Elizth. Tn. on Staten I^d. Sound, and the plot turns on a night attack made by the British on an American Outpost.

[Four pages of quotations from Strickland's Lives of the Queens of England.]

[Three pages of quotations in French from Mémoires de Dangeau.]

In "Letters and Memoirs" by Madame de Riedesel. New York. one vol. 1827. At page 18, (Translator's Preface), I find these remarks in relation to the German auxiliaries:

"The Duke or Prince received the subsidies; regiments were organized; officers, partly veterans, who had already begun to enjoy the sweets of a military pension, were called to head them: many of the men were enlisted by violence:—they embarked, and "fierce Germania's blue-eyed youth," *fera cærulea Germaniæ pubes*, [interlined: The original, which the Americans might have taken for a motto after the war, is "*Nec fera cærulea domuit Germania pube.*" Horace. Epods XVI. 7.] with the heavy accoutrement which distinguished, until the late war of Germany, the equipage of the troops of that country; with haversacks, long-skirted coats, long swords, enormous canteens, grenadier caps, with heavy brass ornaments, much powder and pomatum in the hair, and clumsy queues, jugged spiritless, through dense forests, and over impassable roads, heart-sick of a mercenary warfare, and longing after the dear "Fatherland." pp. 18. 19.

Madame de R. says, (the date being 1779, at the end of Summer, or beginning of Autumn) :

" We reached a beautiful place, called Eliza (226-227) bethown, opposite to Staten Island, where we met with many loyalists, who treated us with great hospitality. We were now near to New-York, and so sure of my husband's being exchanged, that we thought all our present wishes fulfilled, and talked during our dinners of crossing over to the city, and adding ourselves, on the same evening, restored to blessed freedom. But on a sudden " &c. pp. 226-227.

Again she says (date, end of November, 1779.) :

In Elizabethtown, we again met with a very friendly reception," &c. p. 332. . . . I spent the winter (1779-1780 A.) very agreeably. The severe cold was the only alloy which mixed with my pleasures. The commissary had, for his private convenience, left it to the care of his negro slaves to cut wood for fuel; and the winter having set in earlier than usual, and the river not being frozen hard enough, to transport it in sledges, &c., and the whole garrison suffered much from want of fire-wood. Sometimes it was utterly impossible to procure it for any money, and when there was some in the market, the price was exorbitant. p. 239.

During the following Summer, " a malignant fever " made dreadful ravages in New York." p. 245.

Out of thirty persons, of whom our family consisted, ten only escaped the disease. The latter, however, suffered much from the heat, which was excessive." p. 247.

[Three pages of notes from History of the County of Surrey, Thomas Allen, London. 1831. vol. II, relating to Richmond England.]

[Two pages of notes from Memoirs of Lady Fanshawe, London, 1829, with casual references to Sir George Carteret and Sir William Dongan].

The complete reduction of the French settlements in North America, (515-516) enabled the Ministry to draw a very considerable military force to the West Indies, where it was resolved to make a very powerful attack upon such islands as still remained under the dominion of his Most Christian Ma-

jesty. For this purpose, eleven battalions were assembled in the month of August, on Staten island, near New York. [interlined: Among these were the 17th or Monckton's regiment, the 35th or Otway's & the 3d battalion of the 60th or Royal Americans. Beatson. III. 364. 395. 396. With the exception of the last they seem to have been all British troops, & the 11 battalions (save one, the 15th Reg^t.) were engaged in the subsequent siege of Havana (same Refe^{es}. as above), Royal American regiment of foot to be raised in North America. Beatson III. 100]. The command of this army was given to Major-General Monckton, (See Note 186); and everything being got ready, they sailed for Barbadoes the end of October, under convoy of a strong squadron of ships of war, commanded by Captain Darby of the Devonshire. Beatson's Naval and Military Memoirs of Great Britain. Lond. 1804. II. 515. 516.

Note 186, referred to above, is in III. 360 ff. and contains, at p. 363, "A List of the General and Staff Officers, and Land Forces, on the Expedition against the Island of Martinico in 1762." headed "Commander in Chief, Major-General the Hon. Robert Monckton." whose name is followed by those of five Brigadier-Generals.

[The following three pages contain further references to the West Indian campaign; and to the movements of General Howe, taken from Beatson]

(Arrival of British). General Howe and Admiral Shulldham having got everything in readiness, sailed with the fleet and army from Halifax on the 12th of June, and arrived on the 29th at Sandy Hook. On the 3^d of July, the fleet moved up to the Narrows, the grenadiers and the light-infantry, under cover of the frigates and sloops of war, were disembarked in the greatest order on Staten Island, and effected their landing without opposition. Such of the rebel troops as had been posted on this island, fled with the greatest precipitation on the approach of the King's ships. The remainder of the army were landed in the course of the day, and the whole were distributed in cantonments (154-155), where they found the best refreshments. The head-quarters were at Richmond. Captain Raynor of his Majesty's ship Chatham, assisted by Captain Curtis of the Senegal sloop, made the disposition of boats for

unding the troops in the most masterly manner, and much to the satisfaction of General Howe. As the rebels were strongly posted and in great force, both on Long Island and at New York, having upwards of a hundred cannon for defending the town towards the sea, and for preventing ships from entering the North River; the Commander in Chief resolved to remain in his present position, and not to commence his operations against them, until he should be joined by General Clinton with the troops under his command, and by the reinforcements expected from England. Ib. IV. 154. 155.

Lord Viscount Howe having hoisted his flag on board the Eagle of sixty-four guns, sailed from Spithead on the 12th of May, and arrived off the coast of Massachusetts Bay about the middle of June. Learning that his brother General Howe had left Boston and gone to Halifax, he immediately bent his course thither, and got off that port on the 22d: but being informed that the fleet and army had left that place, he hastened to follow them. Ib. IV. 155.

Lord Howe arrived at Staten Island on the 12th of July, and assumed the command of the fleet on the American station. Ib. IV. 155.

On the 12th of August, Commodore Hotham in the Preston of fifty guns, accompanied by some frigates, arrived at Sandy Hook, having under his escort the transports with foot guards and Hessians, also the camp equipage for the army; the troops were in exceeding good health; and on the 14th Commodore Sir Peter Parker and Lieutenant-General Clinton, with the armament under their command, arrived from the southward. General Howe was now enabled to begin his operations, and to act upon the offensive against the enemy, and he made his arrangements accordingly.† Ib. IV. p. 156.

List of his Majesty's Sea and Land Forces assembled at Staten Island, near New York, July. 1776. (This Document is very important, but too long to be copied. After a list of the officers of the army, we have "Order of Battle of the British Army, Staten Island, Aug. 1. 1776." & then a list of the fleet with commanders and number of guns. This must be consulted hereafter.)

† Note. (Vol. VI. pp. 49. 50. 51. 52. 53, 54.)

General Howe having signified to the Admiral, that it was his intention to make a descent in Gravesend Bay on Long Island, on the morning of the 22d, the necessary dispositions of the fleet were made, and seventy-five flat-boats, with eleven batteaux and two gallies (built for this service, were prepared for landing the troops. (156. 157)

Lord Howe delegated the direction and superintendence of the embarkation of the army from Staten Island, and of the intended descent, entirely to Commodore Hotham, who conducted this arduous service with the greatest dispatch and good conduct. In the afternoon of the 21st of August, the troops which were to compose the second and third debarkations were put on board transports, sent up from the Hook to Staten Island for that purpose. Early in the morning of the 22d, the Phoenix, Rose, and Greyhound frigates, commanded by Captains Parker, Wallace, and Dickson, together with the Thunder and Carcass bombs, under the direction of Colonel James, were placed in Gravesend Bay, to cover the landing of the army.

The flat-boats, gallies, and three batteaux, manned from the ships of war, were formed into nine divisions, commanded respectively by Captains Vandeput, Masson, Curtis, Caldwell, Phipps, Caulfield, Uppleby, and Duncan, and Lieutenant Reeve of the Eagle. The rest of the batteaux, making a tenth division, manned from the transports, were under the conduct of Lieutenant Bristow, an assistant agent of transports.

As soon as the covering ships had taken their respective stations, the first embarkation of the troops from Staten Island commenced. This, consisting of light infantry and the reserve, both forming a body of four thousand men, and under the command of Lieutenant-General Clinton, made good their landing without opposition. The transports with the brigades which composed the second debarkation, consisting of about five thousand men, moved at a little distance after the flat-boats, gallies, and batteaux, and by eight o'clock were ranged on the outside the covering ships. As soon as the flat-boats returned from the shore, their debarkation commenced, and was so expeditiously effected, that they might have supported the first

vision, if the insurgents had made any attack upon them. The transports with the remainder of the troops, followed the former in proper succession: and such was the activity of Commodore Hotham, the officers and men under his command, in which (157-158) they were well seconded by the exertions of Captain Bourmaster, and the other agents of transports, that before noon fifteen thousand men, and forty pieces of cannon, were landed on Long Island.

The rebels had only small parties on this part of the coast, who, upon the approach of the boats with the King's forces, retired to the woody heights, commanding a principal pass on the road from Flatbush to their works at Brooklyn

On the 25th, General Howe ordered Lieutenant-General de Mifflin, with two brigades of Hessians from Staten Island, to join the army; leaving one brigade of his troops, a detachment of the fourteenth regiment of foot from Virginia, and some convalescents and recruits, under the command of Lieutenant-Colonel Dalrymple, for the security of that island. Ib. IV. 156-157-158.

After the failure of the meeting at Billopp's house, determined to land at Kipp's bay, 5 frigates, Phoenix, Roebuck, Argus, Carysfort, Rose, passed New York, evening of Sep. 15, "receiving as they passed a heavy fire from the enemy" & anchored opposite Kipp's bay. "The flat-boats, batteaux, and allies were put under the direction of Commodore Hotham, . . . These were manned from the two-decked ships and transports, and sent up the river at different times from Staten Island. By keeping close to the shore of Long Island, they passed undiscovered by the enemy on the opposite side." Six transports were also sent, and "appointed to take on board a number of troops from Bushwyck, who might be at hand to give timely support to the division of troops who should make good their landing, (163-164) and who were to be embarked, for that purpose, in flat-boats at Newtown creek. Ib. IV. 163-164.

After Howe's landing at "Frog's-neck." "At this place, the army was under a necessity of waiting five days for stores and provisions. This delay was occasioned partly by bad weather,

and partly by the transporting of three battalions of Hessians from Staten Island, which General Howe had ordered to join the army." Ib. IV. 170.

[Here ends Book I; the following pages being in Book J.]

Book J

[The notes contained in this book are written on the back pages of Book I, several of which have been cut out. The fly-leaf is inscribed "Charles E. Anthon. Nautilus Hall Staten Island" and has a pencil memorandum relating to the Seven Years War.]

A. 2.

N. Y. Gazette. March 15th. 1756

(1755 Ferry established to Staten Island. Manual of Corporation. 1856. p. 538) Thursday last about 12 o'clock, happen'd a very melancholly Accident in our Bay, when one of the Ferry Boats from Staten-Island, being coming over, in a pretty high Wind, with 13 Men and 3 Horses on board, a rough Sea, near Oyster-Island, overwhelmed the Boat, and she sunk down directly: by which Means 11 of the Men and the three Horses were drowned: As it happened to be just on the Edge of the Flats, about three Feet of the Boat's Mast continued above Water after she sunk, to which several of the Men clung for a considerable Time: And upon its being discovered from this City, two other Boats immediately put off, who, tho' upwards of four Miles distant, happily reached them Time enough to save two of the Men, the rest being quite spent with cold and wet, could not hold out— and those saved were almost ready to drop likewise: Persons saved were Capt. Williams designed a Battoc-Man, and one of his Men: Those drowned were Thomas Harrison, Israel Rose, Daniel Fling, and James Jones, designed Battoemen under Capt. Williams: Mr. Thomas Alston of Raway; Moore of Piscattaway; Denyse Van Tyle, the Boatman William Smallpierce, a Soldier belonging to Shirley's Regiment; and three Gentlemen Strangers.

ibid. March 22, 1756.

Monday Morning last was taken up on the Jersey Shore, and brought into the White-Hall Slip, the Ferry-Boat in which the

melancholly Accident happened the Thursday before in our Bay. Daniel Fling, one of the Battoe-Men drowned, was found in the Boat, and soon after buried; and the Saddle-Bags that were still in the Fore-Castle, discover'd that the three strangers mentioned in our last to be likewise drowned, were, William Lawrence, of Raway; and John and William Miller, of Setauket, on Long-Island.

Ibid. April 5th. 1756.

On Saturday the 27th of last Month died after a short Illness at his Lodging in this City, in the 61st Year of his Age, John E. Count, Esq; one of the members of the present General Assembly, and Judge of the Court of Quarter Sessions for Richmond County: . . . A Gentleman in whom all the social Virtues shone conspicuously, and so well beloved in the County of Richmond, as to be unanimously returned a Representative for that County for 29 years past, successively. His Remains were carried to Staten-Island the next Evening to be interred amongst his Friends.

A few remarks on the currencies of the different Colonies may be found in the Preface to Schöpf's Reise—See A. 1. Fly-leaf.

Ibid. April 12. 1756.

Scheme

Of a Lottery for raising One Hundred and Fifty Pounds. Where as the Freeholders and Inhabitants of the County of Richmond, are enabled by an Act of the Governor, Council and General Assembly, of the Colony of New-York, to raise by Way of Lottery, a Sum not exceeding the Sum of One Hundred and Fifty Pounds, to purchase Arms and Accoutrements, for the Use of such Persons in the said County, as are unable to provide themselves therewith, in Cases of Necessity. And where as the said County of Richmond is a Frontier County and liable, in Case of an Attack, to be the first invaded, it is hoped all Lovers of their Country will generously encourage the said Lottery.

N ^o . of Prizes	Pieces of Eight		Whole Value
1	375	is	375
2	187	and a half are	375
4	125	"	500
10	25	"	250
25	12	"	300
40	10	"	400
60	5	"	300
142 Prizes			
858 Blanks			
1000 Tickets, at 2 and a Half Pieces of 8 is			2500

[interlined: Dollars 15 pr. ct. on \$2500 makes \$375 or 150 pounds.]

As soon as the Lottery is finished Drawing, the Prizes will be published in the New-York Gazette, and the Money paid to the Possessors of the fortunate Tickets, fourteen Days after the Drawing of the said Lottery, Fifteen per Cent, being first deducted out of the Whole; which several Deductions of Fifteen per Cent. are to be applied for the Purposes aforesaid.

Proper Notice will be given by the Persons appointed to manage the said Lottery, of the precise Time of Drawing the same; which Persons are Mr. Samuel Brooms and Col. Benjamin Seamans, who are to give Bond, and be under Oath, for the faithful Performance of the Trust reposed in them.

Tickets are to be sold by the said Managers at their repective Dwellings in the said County, and by the Printers hereof.

Ibid. June 28. 1756.

Benjamin Seamans, Esq; on Thursday last was return'd a Representative for Richmond County; in the Room of John Le Count, Esq; deceased.

[interlined: M^r E. B. S. thinks the name was never spelt with an s.]

Ibid. July 5. 1756.

Ran away the 2^d. Instant July, from John Decker, of Staten Island, a negro Man, being a short chubby Fellow, with extraordinary bushy Hair, is barefoot, and has a Soldier's red Great

on. Also ran away from the Widow Haughwout, of the Island, a negro Wench, of middle Size, is with Child, and speaks broken English, and has a Bundle of Clothes with her. supposed they went together. Whoever takes up the said Man and Wench, and secures them so that they may be again, shall have Forty Shillings Reward, and Charges by the Owners, John Decker and Widow Haughwout. Verlined: J. D. was grand father or great g. f. of M^r. A. Conson's mother.]

ibid. Dec. 13. 1756.

ibid. Duckett, Keeper of one of the Ferries from Staten Island to this Place, was found dead in one of the Passage-Boats, on Monday evening last, soon after he had assisted one of his boats to go from the Wharf with Passengers. Verdict from Jury—Apoplexy.

ibid. Feb. 27. 1758

TO BE SOLD

By Gerardus Beekman,

Staten-Island, in Richmond-County, A Farm or Plantation, whereon he lives, about a Mile from Watson's Ferry, on the main Road to Amboy, being well Water'd and Timber'd; a great Quantity of fresh Meadow-ground, and much more may be made; whereon is a House, Kitchen, Barn, &c. &c. about 300 Fruit Trees, as also a Parcel of Land adjoining thereto; and several Lots of Salt Meadow, containing about 10 Acres, and will be sold either separate, or all together.

ibid. March 20. 1758.

hear that the following are the Quotas designed for the several Counties in this Government to furnish towards the coming Campaign, viz. New-York, 312; Albany, 516; King's County, 63; Queen's County, 290; Richmond, 55; West Chester, 395; Dutchess, 289; Ulster, 228; Orange, 146; Suffolk, 289. ibid., 2680. [2583]

ibid. May 1 1758.

Staten-Island, April 22^d, 1758. The Staten Island Stage Wagon still continues to proceed as usual, from Mr. John Wat-

son's at the Narrows, on Mondays and Thursdays, and from Mr. Isaac Dotes, on Tuesdays and Fridays: And as the Subscriber lives near the Middle of the said Island, Passengers may have an Opportunity of being carried to and from his House; which could not be expected to be done, if he lived at either of the Ends of Staten-Island.

Joseph Richards.

Ibid. Jan. 29, 1759.

Among the representatives returned to the General Assembly are

William Walton	} Richmond County.
Benjamin Seaman	

[interlined: Death of Mrs. Cornelia Walton, relict of the late Hon. William Walton. May 3^d. 1786. F. I. 40-41.]

On Wednesday the 10th inst. in the Evening, at Staten Island, departed this Life, after a short Illness, in the 81st Year of her Age, Ann Corsen, Wife to Col. Christian Corsen, Esq; with whom she had had lived in a Marriage State for upwards of 61 Years past. She was a constant Wife, a tender and affectionate Mother, and remarkable for her Industry and good Oeconomy. Her Remains were decently interred on Sunday the 14th instant.

[The will of Christian Corsen, proved Jan. 7, 1766, shows him to have been the owner of lands in New Jersey, as well as on Staten Island, and of several slaves. It makes bequests to more than twenty grandchildren.]

Ibid. April 7. 1760.

March, at the North-River, in New-York.

The Staten-Island Stage Waggon, still continues to proceed as usual, from Mr. John Watson's at the Narrows, on Mondays and Thursdays, and from Mr. Isaac Dote's at Amboy Ferry on Tuesdays and Fridays, when due Care and Attendance will be given, and those who will please to favor me with their Custom I shall be obliged to, hoping such a costly Undertaking will meet with all the Encouragement it deserves, who hath been at a great Expence in carrying it on several Years past.

Joseph Richards

d. June 30. 1760

r Barnes offers a reward for a runaway negro boy.

d. July 17. 1760.

To Be Sold,

ood Plantation on Statten-Island

rlined: Joseph Segune has built a house near this spot.
ce's Bay.]

ining one hundred and sixty Acres of Land and Meadow,
about four Miles from Perth-Amboy; beautifully situ-
one End of the Farm fronting the Sea, having a fine Pros-
of the Hook, and the Jerseys, particularly convenient for
g and fowling all seasonable Times of the Year. The
End of the Farm fronting the King's—highway, being
watered and timbered, between twenty and thirty Acres
een Swamp, but now most part cleared and ditched, and
been occupied both for Grass and Grain; and by experi-
is thought to be as good as any can be at all; the whole
raordinary kind free Land, for either Grass, Wheat, Bar-
or any sort of grain: A large Barn, a good Orchard close
e House, a good Well at the Door, easy Payments will be
ed for the same; and inasmuch as the Money is not
ed the Payments may be after they become due for any
nable Time, allowing reasonable Interest for the same:
Person inclining to purchase, may be further informed
plying to Joseph Richards, at the sign of the Stage Wag-
on Statten Island, or Isaac Prall, who is the proper
er, and lives on the said Premises, and will give an indis-
ole Title for the same.

d. Jan. 31. 1757.

reas the Subscriber hath been instrumental of propagat-
Stage between Philadelphia and New-York, and by Ex-
nce, finding some Difficulty some Times to pass by Water
Amboy Ferry to New-York; Notice is hereby given,
a Stage-Waggon is erected to proceed from Mr. Isaac
s opposite to Perth-Amboy, on Monday the 17th Instant,
ary, and to pass through Statten-Island, Load or no Load,
r. John Watson's, Mrs. Duckett's, and Mr. Vantile's; and

on Tuesday proceed back to the aforesaid Dote's, and so in like Manner every Day in the Week; when due Attendance will be given, and Passengers meet with the best of Usage, by me

Joseph. Richards.

[interlined: The Amboy Ferry was kept by Isaac Butler for forty years. Commenced immediately after the Revolution. Died about 1828. Henry Biddle Hogge married his daughter. Had his name changed by Act of Legislature to Biddle. Biddle & Bedell are different families. Rev. Gregory T. Bedell rector of St. Ann's Church Phil^a dec^d. born on Stat. Isd. born in the Rose & Crown house which is between Patten House & Black horse. His farm was on opposite side of road.]

N. B. To hinder any Disputes or Resentments that may arise hereafter, I have thought fit to inform the Publick of my Price and Custom; Each Passenger to pay Three Shillings, before they proceed on their Journey, and in Proportion for other Things, (except Letters, which are to be carried gratis.) Hoping therefore that all Well-wishers of such an Undertaking will give me the Encouragement it deserves. I remain

Their very humble Servant,

J. Richards

Ibid. Feb. 14. 1757.

All Persons indebted to the Estate of Jacob Corsen, late of Staten-Island, deceased, either by Bill, Bond, or Book Debt, are desired to come and settle the same by the First Day of May next otherwise Extreame will be used to recover what is due. And all those who have any Demands are also desired to come and receive their Balances, by settling with the Executors, Joshua Mersereau and Jacob Corsen, Jun^r.

Ibid. May 16. 1757.

Advertisement of Sale of a Farm or Plantation on Long Neck per Joseph Lake.

Ibid. July 25. 1757. See A. 1. Fly Leaf.

Whereas I the subscriber have been instrumental of setting forward a stage between Philadelphia and New York; and, by experience, finding same difficulty, at times, to pass by water from New York to Perth Amboy: I therefore give this publick

ce, that a stage-waggon is fixed, to proceed from Mr. John
tson's at the Narrows on Mondays and Thursdays, and
Staten Island, load or no load, to Mr. Isaac Dote's oppo-
to Perth-Amboy, where due attention will be given, for
quick dispatch to the Bordentown and Burlington stage-
gons: and will proceed back on Tuesdays and Fridays to
aforesaid Watson's, or, if required, to Mr Simonsen's or
Vantile's the price is equal to either place, which is Three
lings, and to be paid before they proceed on their journey:
s therefore the publick may depend upon being fulfilled, on
alty of making good all damages that may accrue on failure
e same, by me, living near the middle of the said island, at
sign of the stage-waggon and horses.

18.

Joseph Richards.

id. Jan. 1. 1761.

n Mersereau, Carpenter, of Staten Island, advertises for a
to man run away. . . . Speaks better Dutch than English.

id. Feb. 19. 1761. (N. B. This advertisement is several
s repeated. Vid. Infra. May 28. 1761.)

ereas about eight Months ago, a Trunk with Goods in it,
brought to the House of Isaac Doty, at the Ferry on
en Island, opposite to the City of Perth Amboy, by one of
Stage Waggon, without any Directions, or if any had
on, they had been rubb^d off: The Owner of the said
nk, on applying to the said Isaac Doty and proving his
erty and paying the Charges, may have it again.

id. Feb. 26. 1761.

e our last we hear also the following Gentlemen are
ed Representatives, viz for Richmond County

Benjamin Seaman	} Esqrs;
Henry Holland	

id. March 19. 1761.

ch 11th. and 12th. the Several Petitions were presented to
Assembly complaining of undue Elections, and Particu-
that . . . Henry Holland Esq; returned as a Member for
mond County and . . . were not duly elected.

The House thereupon Order'd That . . . That the Sheriff John Hilyer, Esq; who return'd Henry Holland Esq; as a Member for Richmond County, be served with a Copy of the petition and Deposition against the said Return, and that the petitioner appear before the House at its next meeting after Thursday the 19th Inst.

Ibid. April 30. 1761.

mention made of Capt. Walter's Company levied in Richmond and King's Counties for the ensuing Campaign.

Ibid. May 21. 1761.

To be Sold at Publick Vendue.

On Tuesday the 16th Day of June next, at the House of Jacob Vanderbilt, deceased, a Plantation in New Durupt, on the South Side of Staten-Island, containing 200 Acres or upwards, of Upland, and 30 Acres of Salt Meadow, near the said Plantation, delightfully situated, a very good dwelling House, a good Barn, and a very good large Orchard of extraordinary Apples, the whole is in good repair, and Wood Land sufficient for the Use of the said Plantation. Also to be sold, several Negroes and Household Goods, Horses, Cows, young Cattle, Sheep, Hogs, two Waggons, Sleds, Plows, Harrows, and other Farming Utensils. The Vendue to begin at 10 o'Clock in the Forenoon, and continue till all are sold, by the Executors of said Estate.

Eleanor Vanderbilt Executrix

Jacob Vanderbilt } Executors

Cornelius Vanderbilt }

[interlined: grand-father of Commodore ?]

[The will of Jacob Vanderbilt, made May 10, 1759, proved Jan. 9, 1761, is to be found in N. Y. Hist. Soc. Coll. 1897 (Abstracts of Wills VI). It makes his wife Neeltie, and his sons Jacobus and Cornelius, his executors, and orders a vendue at the end of six months, as per notice copied above. The testator, Jacob Vanderbilt, was the great-grandfather of Commodore Cornelius Vanderbilt, as shown in Clute's Annals of Staten Island.]

Ibid May 28. 1761.

Staten-Island, May 27, 1761.

Whereas Isaac Doty, sometime ago, had the Assurance to take

on himself to advertise a Trunk left at his House; but it was in such a contradictory, dark and hidden Manner, that I hope the publick should know the Truth how it was, viz.

On Thursday the first Day of May, 1760, a Stranger at John Watson's, delivered to my Son a hair Trunk, with a Direction the Side next to the Lock for Jacob Reckes (or such like name) in Arch Street, Philadelphia; also ordered him to carry no further than my House until he should bring more goods, which he said would be soon, and have them all carried together; I considering the trouble of Unloading and Loading such a heavy Trunk would be an Advantage, in as much as I expected the Remainder shortly to come, I ordered it to be carried through to the other End of the Stage, and informed Doty the Nature of the Thing, and shewed him the Direction, who helped me to turn the Trunk to the Wall; I since have took a good deal of pains to inquire for the Owner, and this morning (in as much as Doty was going to leave the Government) I demanded the Trunk, and forewarned him taking it away, nevertheless he goes and advertise, that a Trunk was bought there without any Directions, takes it out of the Government, leaving me unpaid for the Freight, and to amuse the world, says, left by one of the Stage Waggon; when he looks at the same Time there was but one Stage Waggon on Staten Island, which belong to me the Subscriber

Joseph Richards

B. Staten Island Stage Waggon still continues to proceed from Billop's Ferry on Tuesday and Friday to New York Ferries as usual.

[*ibid.* Jul. 2. 1761.

Staten-Island Ferry, June 26, 1761.

I am sorry to inform the Public,

that Major Douglass has frequently pawn'd his Honour, by telling Gentlemen that there were no Boats at Johnston's Ferry, but for want of Faith, they have come, and found one, and sometimes two.

James Johnston.

[*ibid.* Thursday. Aug. 13. 1761.

On Friday and Saturday, General Otway's Regiment came down from Albany, and was landed at Staten Island.

[interlined: vid. p. 71. This book. This was the 35th regiment. Beatson's Naval & Military Memoirs. Lond. 1804. III. 395. It went to Martinique with Gen. Monckton, (Ib. 364.) & was at the siege of the Havannah in 1762. III. 395, Havana capitulated Aug. 13. 1762. II. 395. Cha^s. Otway Col. & Henry Fletcher, Lieut. Col. of the 35th. reg^t. of Foot, gone on the Expedⁿ. agst. Martinico.]

Ibid. Thursday. Sept. 3^d. 1761.

Friday last his Excellency General Sir Jeffery Amherst, Knight of the Bath, arrived in the Camp on Staten-Island, from Albany: He came on Horseback down the West-Side of Hudson's River. [interlined: List of his Majesty's Land Forces in Royal Magazine Lond. Vol. 6. for 1762, p. 90. Sir Jeffery Amherst, Colonel and James Robertson, Lieut. Col. of the 15th Reg. of Foot, gone &c. ib. Sir J. A. also Colonel in chief of the 60th. or Royal American Reg^t. Station America. ib. p. 91.]

Ibid. Oct. 29. 1761.

Staten-Island, 26th. October, 1761.

The Ceremony of Investing Sir Jeffery Amherst, with the Most Honourable Order of the Bath, was performed Yesterday in Camp, he having concerted with Major General Monckton [interlined: Robert Monckton, Col. and John Darby, Lieut. Col. of the 17th. Reg^t. of Foot, gone &c ib.], such Manner of its being performed, as the present Service would allow of. [interlined: The Knights of the Bath are properly installed in the nave of Henry the Seventh's Chapel, Westminster Abbey. Cruchley's Picture of London. Lond. 1844. p. 75. (See Fly Leaf at end of Book.)]

His Excellency Major General Monckton, Governor of New York, and several officers of the Army being present, Major General Monckton first read Mr. Secretary Pitt's Letter, as follows; [interlined:

Bold Monckton whose soul not a fear can contract

And Rodney of spirit so great;

Have convinced the proud slaves, that we sons of the waves,

When we please can determine their fate.

I have convinced &c

nza II of a Song on the Reduction of Martinico. Royal Gazette Vol. VI. 1762. for April. p. 209.]

Whitehall, July 17th, 1761.

His Majesty having been graciously pleased, as a Mark of Royal Approbation, of the many and eminent Services of Major General Amherst, to nominate him to be one of the Knights Companions of the Most Honourable Order of the Bath; and it being necessary that he should be invested with the Ensigns of the said Order, which are transmitted to him, on this Opportunity; I am to signify to you the King's Pleasure, that you should perform that Ceremony; and it being His Majesty's Intention, that the same be done in the Most Honourable and Distinguished Manner that Circumstances will allow of, you will concert, and adjust with General Amherst, the Time and Manner for Investing him with the Ensigns of the Order of the Bath, as shall appear to you most proper for showing all due Respect to the King's Order, and as may, at the same Time, mark in the most publick Manner, His Majesty's just Sense of the Constant Zeal, and Signal Abilities, which General Amherst has exerted in the Service of His King and Country. I am &c

W. Pitt.

Honourable Robert Monckton.

Major General Monckton then proceeded to put the Ribbon on Sir Jeffery Amherst's Shoulder, making an Apology, that Circumstances would not admit of a more formal Investiture. Sir Jeffery Amherst, upon receiving the Order, addressed himself to Major General Monckton, in the following Terms;

Mr,

"I am truly sensible of this distinguishing Mark of His Majesty's Royal Approbation of my Conduct; and shall ever esteem it as such; And I must beg leave to express to you the peculiar Satisfaction I have, and the Pleasure it gives me, to receive this Mark of Favour from your Hands."

ibid. Nov. 5. 1761.

Tuesday Morning last 17 Guns were fired from Fort Mifflin, on the Arrival of his Excellency Sir Jeffery Amherst,

K. B. from the Army on Staten Island, where his Excellency Gen. Monckton, Governor of this Province, now has the Command.

Ibid. Nov. 12. 1761.

Within these few Days the Troops encamped on Staten Island, are all embark'd, the Tents struck, and almost every Thing in Readiness for the Fleet (consisting of above 100 Sail) to proceed on the Expedition, under the Command of His Excellency the Hon. Major General Monckton, Governor of this Province.

We have Reason to hope that these brave Troops, (with their experienc'd Commander) who have had so great a Share in the Conquest of Canada, will acquire fresh Glory in this Expedition; which we hope will be crown'd with Success, and complete their military Service by reducing our Enemies to an Incapacity of Supporting the War and the Necessity of accepting reasonable Terms of Peace.

Ibid. Nov. 26. 1761. [interlined: quotation from Schiller.]

On Thursday Morning last, the Fleet of Men of War and Transports mentioned in our last, weighed Anchor and put to Sea, having an extraordinary fine leading Gale, which, by Twelve o'Clock at Noon carried them clear of the Hook; and its Continuance almost ever since, gives us Hopes of their having a good Offing, and in a prosperous Way of arriving safe at their destin'd Port. [interlined: Expedition briefly and neatly narrated Massey I, 105-6.] [also interlined: Narrows frozen over Jan^y. 15th. 1761.]

Ibid. March 4. 1762

To Be Sold.

At Public Vendue, on Thursday the 1st day of April next, on the premises, a pleasant situated place or farm, on the North side of Staten-Island, belonging to the estate of John Van Pelt, deceased, and is now in the occupation of Simon Symonsen, lying and being between the lands now in possession of Col. Thomas Dongan, and Joseph Rolph, Esq; containing about 83 acres; on it is a large stone house, cellar and kitchen, with three fire places, a large barn, and a good orchard, with about

300 fruit trees of sundry sorts, a good stone well with exceeding good water, and good fishing and oystering near the place, and a fine brook of running water, by which said farm is conveniently watered in every pasture, and with a small charge some fine mowing ground might be made along the side of said brook. Also to be sold with the said place, one twentieth part of a large tract of salt meadow, lying at the North-west side of Staten-Island, commonly known by the name or title of John Tun(i)son's meadow. [interlined: Tunis' Creek, second one South of Old Place Creek. The order of the creeks from E. T. point according to A. S. is Bridge, Old Place, Marks, Tunis.] Also at the same time will be disposed of at publick sale, the stock and farmer's utensils, and sundry household furniture, by

Evert Byvanck (interlined: Burbank), and }
Dirck Lefferts } Executors

Ibid. March 25, 1762.

To Be Sold. [interlined: Holland's Hook, Bedell's place.]

On Monday the Third of May next, at publick Vendue on the Premises, the Plantation or Farm belonging to Henry Holland, situate in Richmond County, Staten-Island, about four Miles from the Dutch Church; it is a Neck of Land bounded on the North-West by the Channel that leads from Elizabeth-Town Point to Amboy, and on the South by the Fresh Kills; it contains about 140 Acres of Arable Land, about 30 of it laid down to Mowing Ground, and is exceeding good; and the remaining 110 Acres by letting it ly idle one Year, or the least Help, will make as good as the 30 already laid down, the whole 140 Acres being exceeding natural to Wheat, Barley, or any other Kind of Grain, the whole being in new Cedar Fence. There is on it a very good Stone Dwelling House sashed 48 by 20 feet, with an Entry thro' the Middle, with a Stone Kitchen of 20 Feet Square at one End of the House by way of an L, with a Lento built of Stone, in which are two Bed Rooms; the whole of the House is in good Order and well finish'd, with a very good Stone Well at the Door, and a very fine Spring of running Water near it. There's also on said Farm, a new

large Dutch Barn shingled, a Chaise House, two Barracks, and all other Conveniences fitting a Gentleman or Farmer. There is also an Orchard that will make 50 Barrels of Cyder in a good bearing Year; there is also about 50 Acres of choice Salt Meadow adjoining the Up-Land on both Sides of the Neck, and 42 Acres of Wood Land. The Fresh-Kills extends the whole Length of the Farm, and is navigable about Half a Mile above the House for a Boat that will carry about Ten Cord of Wood. . . . sic . . . At the same Time will be Sold, all the Negroes, and Stock of Cattle, such as Horses, Cows, Hogs, and Sheep, which last are of the largest English Breed. Any person inclining to purchase the whole, or any part of the said Farm, with or without the Improvements, at private Sale any Time before, may apply to said Holland, who will give an indisputable Title for the same, and allow Time of Payment, with Interest.

Ibid Jul. 15. 1762 (previous number wanting)

Instead of two Hundred

Acres of Land, and 14 Acres of Salt Meadow, mentioned in the last Papers, to be Sold at Public Vendue, on Staten Island within a mile and a half of Watson's Ferry, on the 20th. of July, the whole Place is to be Sold at Public Vendue, on the same day, which contains 366 Acres, Salt Meadows included, there is upwards of 120 Acres of exceeding good wood land between 20 and 30 Acres is already laid down in Meadow, and 60 more may be made with the least help, as the wood will pay for clearing the ground: The clear ground is very good for Grain or Pasture, the whole of the ground is exceeding well water'd, having three or four Springs in it and a fine run of water the whole length of the ground, there is a good Dwelling House and Barn with a Pump of exceeding fine Water before the House, an Orchard of 400 bearing fruit Trees, and a good Garden, The Place is all in good Fence, any Person inclining to Purchase before the Day of Sale may apply to James Bain, living on the Premises, who will give an indisputable Title for the same, there are likewise Horses, Cows, Hogs, Sheep and Farmers Utensils of all Kinds to be sold.

Ibid. Oct. 21. 1762.

DUBLIN

A Negro well known in New-York, the Property of Mr. Roper Dawson, ran away from Staten-Island, the 11th inst. He is about Five Feet high, slender built, has a Scar under one of his Eyes, very pert, active and talkative, speaks English very plain; had on, when he went away, a new Watch Coat [interlined: Coat with one little Cape, then going down to ankles, slit up to the crotch behind. A. S.] of drab Colour, yellow Buttons; check Shirt, a Pair of old Duck Trowsers, plain square Copper Buckles in his Shoes, a broad Gold lac'd Hat, also a blue Scotch Bonnet: Whoever gives Intelligence of, and secures him, shall receive Five Dollars Reward, and all Charges paid by his Master. New-York, Octob. 20. 1762.

Ibid. Dec. 30. 1762.

To be Sold, at publick Vendue, On the Premises, on Monday the 28th Day of March next, The advantageously situated Farm and Plantation, late of Adoniah Schuyler, deceased, [interlined: called Schuyler's Ferry] at Elizabeth-Town Point; whereon is a good Dwelling House, Barn, Out-Houses, a large Orchard, together with the Ferry, and Road from the Sound, to the Upland of Staten-Island, and the several Privileges belonging to the same. The Title is indisputable, and a Deed will be given to the Purchaser, by John Schuyler, and Gertrude Schuyler, Executors of the last Will and Testament of the said Adoniah Schuyler, who have Power to sell the same.

Ibid. Jan. 27, 1763.

We hear that one of the Ferry boats, belonging to Staaten-Island, put off from the Ferry stairs on Sunday last, with only a single man on board, who, by reason of the extreme cold, became unable to manage the boat, which was driven by the winds, till the man was taken off, almost frozen, by a man of war's boat . . . sic . . . The boat, we hear, is lost.

Ibid. Feb. 3. 1763.

Whereas her late Majesty, Queen Ann, by her Letter Patent, under the great Seal of this Province, of New York, bearing Date Sept. the 1st. 1708 did grant unto Francis Vincent, and his Heirs, sundry Parcels of Land and Meadow, lying on Staten Island, in the County of Richmond, viz.

(here follows a recital of these parcels, occupying almost a column of the paper, marked by names of the proprietors of adjoining lands, which are here given, together with the Geographical names introduced) Pinhorne [interlined: account of this family Wooley p. 68 taken from Col. Doc. III. 716] Peter Lecount Albert Janson John Melyore John Brevecle Francis Welton John Bodine || Courtlandt Fresh Kill (16 acres of salt meadow of,—“being almost round a certain Hammock of Upland” also included. Hammock and meadow bearing N. W. from house of John Morgan [interlined: called Price’s Island. Elias Price inhabited it for many years, he was one of the first Methodist preachers on the island. His son lives there yet.] Benjamin Cooper. Mark Dussassway. Abraham Cannon Daniel’s neck Thomas’s Creek [interlined: A. S. thinks puts up to the hummock above mentioned, and now called Island Creek] Charles’s neck Jacob Galliot John Cashee Joshua Carsoon Abraham Cannon’s Creek.

And whereas I the Subscriber, not knowing but some Piece or Parcel of the said Land may be disposed of by the said Francis Vincent, or some Person authorized by him, and being desirous to prevent Trouble, I hereby desire all Persons who may have purchased, or are any Ways interested in the said Lands, to meet at my House in New York on the 20th of April next, for the Purposes above mentioned.

New York. January 13th. 1763. Daniel Mesnard.

Ibid. Thursday. March 10. 1763.

Friday last a Quantity of bad Butter was seized in our Market, belonging to one Mr. Rosea [interlined: Reseau], of Staten Island: The Rolls were very artfully ceased ([interlined: sic] over with excellent fresh Butter, and the inside so bad, that it was fit for no other Use than the Soap Tub.

Ibid. March 31. 1763.

In List of Letters remaining the P. O. New York, March 25th 1763

Thomas Dongan, Statten Island.

Mrs. Hicks, 4 Statten Island.

Ibid. Aug. 18. 1763. Ferry [in red ink.]

New York. Aug. 18.

We have just received the melancholy News that last Night in the Sudden Squal, which came up about Sun-Set, Mr. Watson's Ferry Boat, going to Staten-Island, was upset at a Place called Robin's Reef, about two Miles from the Shore, and immediately sunk, every Person on Board was drowned, except the Ferry Man, who, with much Difficulty swam a-shore. The Names of the Persons we have heard of, who lost their Lives by the melancholy Event, are Mr. Robert Kennedy, a Scotch Gentleman, Mr. Chapman, and Mr. Anderson, of Philadelphia, M. De Loge, of Surinam, and his Negro Boy, Mr. David Gammel, Mrs. Henderton of this City, and Mrs. Reynolds, Wife of Capt. Reynolds, now at Sea.

Ibid. Oct. 6. 1763.

In List of Letters remaining in the P. O. New York. Oct. 5. 1763.

Geo. Bass. Staten Isl.

John Hillyer, Esq: Staten Island.

This is to give Notice, to all Gentlemen Travellers, and others, that may have Occasion of having themselves, Horses, Chaises, or any other Goods, transported to or from New-York to Staten Island, that the Ferry is now continued to be kept by Otho Van Tyle, at Staten-Island, and Abraham Bockee, at the Whitehall Slip in New York, in Company, they having three Boats, well fitted for the Purpose, for the Dispatch of Business: Any Gentleman in the City of New-York, having Occasion, may (by giving Notice to Abraham Bockee) have Boats at the Times appointed to attend.

N. Y. Post-Boy. Nov. 10, 1755.

Publick Notice is hereby given, to all, Gentlemen Travellers and others, That Martin Duckett [interlined: vid his death p. 3], has rented the noted Ferry House on Staten-Island, lately kept by John Watson, where he intends to Keep the best Entertainment for Man and Horse, with three good Boats constantly attending said Ferry, to and from New York and Stat-

ten-Island, in company with Scotch Johnny of said City, Tavern-Keeper; as also a commodious Stable, with all Kinds of Provinder, for Horses, &c. near the White-Hall Slip, where all Gentlemen Travellers may be assured of the best Entertainment for themselves and Horses; with the most careful and expeditious Passages across the Bay, or to Long-Island (if required) by applying to said Scotch Johnny, near the Whitehall Ferry stairs, or said Ducket on Staten-Island aforesaid: And in Case a Boat show'd be wanted on any Emergency, there shall be one in Readiness, on Notice given to either of the Persons above mentioned.

Nov. 17. 1760. Notice of sale of Farm of Gerardus Beekman on S. I. about $1\frac{1}{2}$ mile from Watson's Ferry, adjoining main road that leads from said ferry to Amboy.

Same Paper. All persons indebted to estate of late Mr. Thomas Bayeux of S. I. to make payment to Anne Groesbeck of same place.

Feb. 23. 1756. Sale of Farm at Narrows next adjacent to upper ferry now Kept by John Watson lately in possession of Cornelius Corsen, Esq. apply to Daniel C. Esq. or Charles McLean.

A Map of "The Provinces of New York, and New Jersey; with part of Pensilvania, and the Province of Quebec. Drawn by Major Holland, Surveyor General, of the Northern District in America. Corrected and Improved, from the Original Materials, By Govern^r. Pownall, Member of Parliament, 1776." presents many interesting points. This Map was lent to me, Sep^r. 12th. 1851, by President King, who intends to present it to the New York(?) Historical Society. He received it as a gift from a M^r. Atkinson. In the upper and left hand corner is a separate chart, entitled "A Chart of the Mouth of Hudson's River, from Sandy Hook to New York." Staten Island appears upon this, but it's interior is not filled up, On it's shore beginning at the Mouth of the Kills and going south, we have (1) a house on the point opposite "Constable Pt." on which latter are represented two houses which I suppose are those of

the Van Boskerck family, (2) a house marked "Watsons Ferry" corresponding in Situation to Van Duzer's Landing, (3) a house marked "Ferry House" at the Narrows, nearly opposite to, but a little South of "Dennises" on the Long Island Shore, corresponding, I think to the situation of the old Vandeventer house or Bedell Jacobson's, (4) "Old Town," represented as a collection of houses with a church steeple, (5) New Town, represented in the same manner at a spot corresponding to the Elm Tree, (5½) a house marked "Ferry" opposite to "Amboy," (6) three houses opposite to Wood bridge, at a point corresponding to Rossville, (7) one house at a considerable distance to the East of Holland's Hook on the North Shore, (8) two houses between the last house and "Dutch Church," opposite "Bergen Pt.," (9) "Dutch Church" with a steeple, and two houses near it. [Comments on the map, not relating to Staten Island except as follows, extend over four pages.] . . . Immediately below this in the same corner of the map is also a separate "Plan of Amboy, With its Environs, from an Actual Survey," on which I find represented the South Western extremity of Staten Island, the Southern most end of which is marked "Billops or Farmers Point." To the North of this are marked four oblong figures representing houses, the Southernmost of which has the name "Billop Esq^r." . . . Billop's point is represented as divided off into fields . . . On Staten Island itself I find on the North Shore, along "the Kills," "Castle Town," and to the West of it, more than half-way towards the North West corner of the island, Cuckolds Town, just opposite the mouth of Newark bay, about the position of the present Mariner's Harbour. "Castle Town" has (somewhat blurred) this mark [illustration] which is the same as that of Elizabeth Town. Cuckold's Town has only this mark [a small circle] A little to the North of the present Telegraph are two marks [illustration] thus, one on each side of the Shore road. "Old Town" is in its present place marked [illustration], which is also the mark of "Richmond," while "New Town" is only marked thus [a little circle]. At and near the present Rossville are several marks

such as this last, and the words "Pr. Church." Opposite Perth Amboy on Staten Island is the word "Ferry." It is very remarkable that by the colouring of this Map Staten Island is made to belong to New Jersey, its shores like those of New Jersey being yellow, those of New York and Long Island, red.

President King lent me on the same occasion "The Works of John Adams" &c. Vol. III. Boston 1851. This volume contains some very interesting matter about the interview at the Billop house.

P. 75. Account of the journey of the three commissioners from Philadelphia to Staten Island—disorderly appearance of the American troops—lodging at Brunswick and philosophical conversation with Dr. Franklin.

P. 72. Arrival of General Sullivan with a message from Lord Howe.

P. 73. Lord Howe's message.—the obtaining of powers to compromise the dispute between Great Britain and America delayed near two months in England.

P. 74. General Sullivan sent back to Lord Howe with an answer to his message—Committee elected, consisting of Adams, Franklin and Rutledge.

P. P. 73 & 74. General Prescott exchanged for Gen. Sullivan. [interlined: A portrait of Lord Howe in Battles of the British Navy. Lond. 1852. Vol. I. p. 384½.

P. 77–80. Circumstances of the Interview.

PP. 80 & 81. Conduct of Gen. Sullivan in bringing the Message.

N. B. There is reference to some letters in which Mr. Adams expressed his feelings on this latter point, which "are inserted, under the proper dates, in the General Correspondence."

[interlined: A very interesting account of him is in Memoirs of an American Lady. N. Y. 1846. 176 ff. 180 ff. A notice of Lord Howe's elder brother, whose monument was spoken of (If I recollect right) at this interview is in Lossing. Vol. 1. p. 119. Note.

References to the Documentary Hist. Vol. 3.

1. The Summons of Gov. Andros to Gov. Colve is dated
 "From aboard His Ma^{ties} Ship The Diamond, att Anker
 neare Staten Island this 22nd of Oct^{ber} 1674." p. 68.

Several subsequent letters of Andros are dated from the same place.

2. A Committee, whose names are given, is appointed to welcome the new Governor. They are directed "to repair on board his Majesty's frigate now anchored under Staten Island, and there welcome the H^r. Governour Andrews and to request together some privileges from him for the advantage of the commonalty." &c. p. 70.

3. Capt. Manning's defence. His reason for sending "3 persons a board y^e Enemies Shipp to (make terms)" "that it was in hopes to have Stopt the s^d Shipp one Tide and in that time expected y^e Govern^r or more assistance wthin y^e ffort," p. 80.

4. Much other interesting matter follows. The Summons of "Cornelius Everson Jacob Banques" is "Dated in y^e ship Swanenburgh Anckored betwixt Staten and Long Island New York y^e 09th of August 1673." p. 92.

5. In a letter on the "State of the Churches in New Netherland; Anno 1657. no mention is made of Staten Island. pp. 103 ff.

neither is there any in another letter, p. 108. ff.

6. In a Summary Account of the State of the Church in the Province of N. York, dated 1704, I find

"Staten Island, Richmond County.

The greatest part of the People in this County are English, and there is a tax of £40. per annum levied on the Inhabitants of the said county for a maintenance to the Minister, and it is very necessary and much desired by the people that a Minister should be speedily sent them with some further encouragement from the society who has at this time an opportunity of reconciling most of them to the Church. [interlined: Vid. C. II. I.] William Vesey. p. 116.

7. By comparing pp. 116, 119, & 128, it would appear that the Rev. Mr. Mackenzie came over between Oct. 5. 1704 and Nov. 9. 1705. Some few particulars respecting him may be found by referring to the name "Mackenzie" in the Index; to which add pp. 256, 260.
8. Some incidental information with regard to Richmond Co. is contained in the Memorial of Capt. Mulford. pp. 363 ff. [This information shows the proportion of a tax of £4000 levied on Richmond County, viz: £226.13.4; also its 350 men out of 5685 in the Province of New York.]
9. Col^o. Seaman mentioned page 497. as one of the bearers of certain Resolutions of the Assembly in relation to the Sons of Liberty to the Governor. Also mentioned p. 536.
10. In the "Census of Slaves, 1755" is to be found a List of the owners of slaves in the "North Division" of Staten Island, with the names of the slaves. The owners are Thomas Dongan who has seven males and three females,) Jacob Corssen Ceneor, Jacob Corssen Juner, John Vegte, Antony Watters, Gerardus Beekman, Johanis de Groet, Cristeiaen Corssen, John Deceer, Garrit Post, Barent marteling, Otto Van tuyl, John Veltmon, Charles Meeleen, Joseph Lake, Elenor haughwout, Barnit De Pue, David Cannon, Charyty Merrill, Cornelias Korsan, Henry Cruse, Cornelius Cruse, Simon Simonson, Joseph Roli, Josuah Merseral, Garret Crussen, John Roll Junr, Richard merrill, Bastian Ellis, Abraham Prall, Margret Simonson, John Roll, Abraham Crocheron, John Crocheron, Aron Prall, Joseph Begel. pp. 867. 868.

Extracts from and References to John F. Watson's "Annals and Occurrences of New York City and State, "&c. Philadelphia. 1846. [Those referring to Staten Island only here printed].

In 1623, colonists and supplies were sent out with Capt. Cornelis Jacobse Méy, and were most heartily welcomed by the few previous inhabitants. Before these arrived, they had been

two years without supplies and destitute; so that some of the Staten Islanders had cut up the sails of their boats for necessary clothing. p. 11. [This item is possibly based upon the recollections of Altie Widelaer, and if so a more probable date would be 1637].

. . . The name of the pastor [at Schenectady] was Tassomaker, [who preached on Staten Island in 1685] and he was the first ever settled in the place. He took the alarm, however, and went away saying nothing; but following his own fears. He was never seen or heard of afterwards, which led some of the good people to apprehend that he was spirited away. [More trustworthy accounts tell of his murder by Indians]. pp. 27. 28

The church records show—that their first pastor was the Rev'd Petrus Tasschemaker, from Holiand, beginning his charge in the year 1684. Before that time only occasional service could be performed, in private houses, by visitors from Albany. . . . This honoured Domine, as has been told, disappeared mysteriously in the time of the massacre. . . . In 1740, we find the name of Cornelius Van Santvoord, as the settled clergyman,—he coming from Staten Island. He died in 1754. p. 30.

Staten Island. Dutch & Indian name. Inhabitants "Mohicans." Robin's Reef. p. 38.

Whales going up the Hudson. p. 42.

Dutch purchase of Staten Island. p. 44.

Purchase and Settlement of Staten Island. p. 45.

[Comments on the Indians of Long Island occupy the next three pages].

[This item was cancelled by Anthon] About the same time (1654, A.) a considerable number of French Vaudois, or Waldenses, came from their persecutions abroad, to settle in the country—some settled on Staten Island, and some in the city. To these the same Mr. Drisius preached also, in French, both in the city and at Staten Island. p. 153. [The preaching of Drisius is now known to have been in 1663.]

Waldenses in 1659. p. 155.

Narrows frozen over Jan. 15, 1761. p. 163.

[Two pages about Wampum manufacture in New York]. Also Wampum made in large quantities "on Statten Island" according to Rev. A. Barnaby. 1766. Denton p. 45.

Blazing Star Ferry. pp. 172. 187. 188

'The perils of the passage from the "Blazing Star," (meaning the sign of a comet,) being four or five miles from the ferry at Staten Island, may be illustrated by the fact, that the Baron De Kalb, when he was a colonel in January 1768, was the only one of nine persons crossing in the scow, who was not so frozen as to lose life or limb; some losing toes, others feet, fingers, &c.; the scow sunk on a sand island, leaving them out all night. He alone would not go to the fire when rescued, but put his feet and legs into cold icy water, took some refreshment, went to bed, and got up unhurt. A Mr. George died before they were relieved. p. 188. [See also p. —]

On the 29th (January, 1780. A.) several persons passed to and fro, between New York and Staten Island; at one time eighty sleighs with provisions, escorted by one hundred soldiers, passed over the same field of ice, p. 188. [interlined: On comparing these data with the Despatches in Book C. they seem incorrect or rather to refer, in the case of the crossings, to isolated occurrences.] East River closed, Jan. 15. North River, Jan. 24, thaw, Feb. 15. Navigation opened. Feb. 24th.

Smuggling before the Revolution. I have been told by respectable commercial gentlemen, who were in business at New York before the revolution, that it was a common every day affair to smuggle contraband goods ashore, at many places on Long Island and Staten Island. They would even unload in day time without any fear of informers, who were held to be odious, and were visited with tar and feathers too. The measure itself, was entirely in harmony with the will of the people, who considered that in proportion to their success, they would profit by the lowness of the prices. Besides, they all deemed it to be unreasonable, that they should be taxed to raise funds to be sent and spent abroad. In that way, much of the tea, gin, china, and sundry dry-goods, came out from Hol-

land; other goods came from St. Eustatia as an intermediate port. Some of the best names, now known in New York as independent men, attained their wealth in the Dutch contraband commerce. The King's officers, too, felt the unpopularity of their position, and seemed well disposed to connive at things not actually seen by themselves. For instance, several vessels used to unload by night and day at a cove on Staten Island, within a mile of Amboy, where the King's officers of the customs, were established. The inside of the sound along Long Island, was also a frequent and favorite place of discharge. The teas which came from England, were of course subject to duties, and paid highly—and every family thought themselves interested to have them low. p. 235.

British camps were sometimes formed on Long Island, and sometimes on Staten Island; on the latter, Gen. Otway's regiment encamped in August, 1761, arrived from Albany—Gen. Amherst also staid there. p. 271.

Oct. 29. Sir Jeffery Amherst was installed as Knight, at Staten Island. The cause and the occasion was this. The troops, eleven regiments, returned from the war on the Canada frontiers, under Gens. Monckton, Amherst, and Otway, and were encamped from August to November, upon the centre of Staten Island, where they formed a market and invited sellers; while there, orders came from England to Major Gen. Monckton, to invest Gen. Amherst with the order, which he did in a public manner before the army, by putting the ribbon over Sir Jeffery's shoulder. Gen. Monckton was immediately after installed as Governor of New York, and a procession made for him in New York, and at night the city was illuminated. New York is often like a military camp, always troops and frigates going and coming. In this manner the society there, must have always been very different from Philadelphia. Gen. Monckton and all the troops went away from Staten Island on the 15th of November, with a fleet of one hundred sail, for the West Indies. What a sight! p. 272.

Stages to Philadelphia, via Blazing Star. John Mercereau proprietor at B. S. p. 282. This article is very interesting. A wood-cut of the wagon is spoken of. Date apparently. 1767.

In June 1838, died John Lusk, in Warren county, Tennessee, aged 104; he was born on Staten Island, November 5, 1734—had been a soldier in the French war, and was at the death of Wolfe, and in the American revolution—had never been sick—walked seven miles and back, when he was past 100 years.
p. 291.

Miss Moncrieffe. pp. 339. 340

Uniform of Hessians. p. 340.

All of Col. Smallwood's Maryland regiment, dressed in hunting shirts, were young farmers of good estates near Baltimore.
p. 342.

Appearance of Gen. Knyphausen & others. p. 349.

The whole work is very instructive & entertaining, in spite of its uncouth style, and well worthy of being purchased.

§ 223.

[Several pages from "History of the Brethren" by David Cranz, London, 1780; the only reference to Staten Island is on page 532]

In Staaten-Island the friends of the Brethren built a chapel for the preaching of the gospel.

[Several pages in German script contain quotations from Schöpf's "Reise" published 1783-1784, referring to Schuyler Copper Mine in New Jersey, &c. The following items, kindly translated by Mr. Hans L. Stecher, are more related to Staten Island.]

Petty-Augers are a kind of vessels, chiefly used in the waters of New York Bay. They were introduced by the Dutch living here. These are half-covered boats, having 5 to 10 tons capacity, with flat bottom, to facilitate traffic in shallow bays. To prevent, however, these boats making too much lee-way in the open bay, caused by wind, waves and current, a big oval board is kept on each side. This so-called lee-board thus hangs a few feet lower in the water than the bottom of the vessel, when lowered for that purpose. At other times it is drawn up. When lowered it gives the boat stability by giving it a larger surface for resistance and thereby prevents the vessel being driven off its course by wind or waves.

In the center of the Bay, towards New Jersey two small islands are situated. Inconspicuous as they appear, they have become important places of business for some time. The traffic between the United States and New York not being quite free and unhampered, and the Americans still desiring English goods (for which they still long and ever will), the goods were smuggled there from the City, where they were called for, one of the islands is called the Oyster Is. The waters surrounding the island contained a great wealth in oysters, so great that the whole city and its suburbs were sufficiently supplied with oysters from this locality. A considerable part of the poorer population made a living through the oyster business. A few years since, however, the greatest number and best of the oysters came from Blue Point, on the southern coast of Long Island, where they are found in large beds and crowded masses of several feet. p. 5.

Lobsters were plentiful before the war, but then became very scarce. The fishermen claimed that the many anchors of the numerous vessels disturbed their localities and on the other hand that the frequent discharge of cannon frightened them away. I do not know which it was, but lobsters were not found again until this year (1783).

[Schuyler's Mine is mentioned also in a quotation from Pownall's Topographical Description, London, 1776, on p. 12 of which appears] Staaten Island is included within the Province of New York, and is of itself one of the Counties of that Province called Richmond: This Island is about 12 Miles long, and about Six Miles broad, it is high, dry, and hilly, pleasant and fruitful; the County Town Richmond lies near the Center of it.

[The 51 pages which follow are copied from Kalm's Travels [in 1748] into North America, translated by J. R. Forster, Warrington, 1770—The reference to Staten Island is confined to the following description of the north shore reached by "a wretched half rotten ferry" from Elizabeth Town Point.]

As soon as we had got over the river, we were upon Staten Island, which is quite surrounded with salt water. This is the

beginning of the province of New York. Most of the people settled here were Dutchmen, or such as came hither whilst the Dutch were yet in possession of this place. But at present they were scattered among the English and other European inhabitants, and spoke English for the greatest part. The prospect of the country here is extremely pleasing, as it is not so much intercepted by woods, but offers more cultivated fields to view. Hills and vallies still continued, as usual, to change alternately.

The farms near each other. Most of the houses were wooden; however some were built of stone. Near every farm-house was an orchard with apple trees: the fruit was already for the greatest part gathered. Here, and on the whole journey before, I observed a press for cyder at every farm-house, made in different manners, by which the people had already pressed the juice out of the apples, or were just busied with that work. Some people made use of a wheel made of thick oak planks, which turned upon a wooden axis by means of a horse drawing it, much in the same manner as the people do with wood; except that here the wheel runs upon planks. Cherry trees stood along the enclosures round corn-fields.

The corn-fields were excellently situated, and either sown with wheat or rye. They had no ditches on their sides, but (as is usual in England) only furrows, drawn at greater or lesser distances from each other.

In one place we observed a water mill, so situated, that when the tide flowed, the water ran into a pond: but when it ebbed, the floodgate was drawn up, and the mill driven by the water, flowing out of the pond.

About eight o'clock in the morning we arrived at the place where we were to cross the water, in order, to come to the town of New York. We left our horses here and went on board the yacht. [In closing the quotations from Kalm's book, which cover the foods of the Indians and early settlers, the animals and trees of New Jersey, and the extent to which natural resources were utilized, besides remarks on the ravages of small pox and brandy, Anthon remarks on the great interest the book possesses.]

[Nine pages are devoted to extracts from "Sermons by Rev. Gregory T. Bedell, D. D., Rector of St. Andrew's Church, Philadelphia," by Stephen H. Tyng, Phil. 1835. He was born on Staten Island, Oct. 28, 1793, the son of Israel Bedell. His mother was a sister of Bishop Moore of Virginia, who from 1788 to 1808 was the rector of St. Andrew's Church on Staten Island. The extracts refer entirely to the amiable characteristics of his childhood and close with] I thought it useless to make farther extracts, as there is no more reference to Staten Island.

[The remaining 12 pages of Book J contain extracts from "Selections from the Correspondence of the Executive of New Jersey, from 1776 to 1786," Newark, 1848, of which the following refer to Staten Island.]

p. 8. In a letter "from the General commanding at New York," dated Aug. 8. 1776. "enemy intend to begin their operations in a very few days." Various bodies of troops arrived at Staten Island. "the army from the southward under General Clinton also joined them last Thursday."

p. 18. Nov. 12. 1776. "The dangerous intercourse between our enemies in New York and Staten Island, and the internal enemies of America in different parts of New Jersey, calls for the immediate interposition of government to suppress it."

p. 60. 1. May 19. 1777. Giles Williams taken who joined the enemy on Staten Island last summer.

p. 78. Jul. 1. 1777. "The enemy have left Amboy and gone over to Staten Island and Bergen. I think this town (Newark. A.) is much more exposed now than when they were below us."

p. 79. same date. On account of the vicinity of Newark and Elizabeth Town to Staten I^d. and other places in possession of the enemy, prisoners removed to gaol at Morristown.

p. 83. Jul. 9. 1777. Women whose husbands are with the enemy named, and recommended to be sent after them.

p. 91. "From Silvanus Seely to Governor Livingston" "Elizabethtown, August 21st. 1777. "Sir,—I received information yesterday that there had gone over a canoe and three men the day before to Staten Island. I immediately sent off a small party

to watch them; they accordingly did so, and in the evening took the canoe and one of the men, Benjamin Hatfield. I send him to you by Peter Williamson and John Bonnel, Jr., two of the men that apprehended him. He denies that any man went over with him, but says that Jacob Hatfield and James Hatfield [interlined: mentioned again. Correspondence, p. 98.] went down with him to get his boat off. I am inclined to think this is true. I make no doubt both these fellows went down and helped him away, and then returned, as I know they were in town at the time the canoe was seized. Our men found with him $1\frac{1}{2}$ gallons of rum, 1 lb tea, sugar and salt, and sundry small writings which I have enclosed. Please inform me what I shall do with the goods taken with him.

Your ob^{nt} and humb. ser.,

Silvanus Seely

His Excellency, Gov. Livingston."

p. 95. In a letter from Col. Frelinghuysen to Gov. Livingston, dated Raritan, August 25th. 1777. "I dare say the account of General Sullivan's conduct in the affair of Staten Island will cause some uneasy sensations. I wish I may be wrong in my opinion, but I seriously believe that upon inquiry, nothing but the most unpardonable neglect will be found the cause of our loss."

[p. 117. A long letter from Gen. William Wins in 1778 complaining of lack of ammunition for militia defending New Jersey from attacks from Staten Island.]

[p. 254. A letter from General Washington to Gov. Livingston in 1780 pointing out the need of meat for his troops.]

[The remaining three pages contain additional quotations from Schöpf. including the following]

Staten I^d. Corresponds to Long I^d. in the northern side being hilly and stony, the southern flat and sandy.

[THE END]

The Salamanders of Staten Island, N. Y., in 1931

GEORGE B. WILMOTT

In an effort to learn something of the present status of salamanders on Staten Island, a number of observations were made and considerable collecting was done throughout the entire year, 1931.

Several localities were worked over, notably Reed's Valley and the Richmond area. Records published in the Proceedings of the Staten Island Institute of Arts and Sciences, and in "Staten Island and Its People," show that nine species of salamanders have been recorded as living on the Island, namely:

1. Water Newt (aquatic form), Red Eft (terrestrial form)
Triturus viridescens (Rafinesque)
2. Spotted Salamander
Ambystoma maculatum (Shaw)
3. Marbled Salamander
Ambystoma opacum (Gravenhorst)
4. Four-toed Salamander
Hemidactylium scutatum (Schlegel)
5. Red-backed Salamander, Gray Salamander (two color phases.) *Plethodon cinereus* (Green)
6. Slimy Salamander
Plethodon glutinosus (Green)
7. Red Salamander
Pseudotriton ruber (Sonnini)
8. Two-lined Salamander
Eurycea bislineata (Green)
9. Dusky Salamander
Desmognathus fuscus fuscus (Rafinesque)

During the past year seven of the above named species were found to be living on the Island, and specimens of each were collected; the Slimy Salamander and the Four-toed Salamander were not found. The list of species observed during 1931 is, therefore, as follows:

Water Newt
Spotted Salamander

Marbled Salamander
 Red-backed Salamander
 Two-lined Salamander
 Red Salamander
 Dusky Salamander

All of the salamanders located during the year were found in Reed's Valley with the exception of the Water Newt, which was found in a pond in the near vicinity.

All specimens were taken alive and every possible effort was made to keep them so. Eggs of the Two-lined Salamander were found in Ketchum's Mill Pond Brook at Richmond, and were subsequently hatched in an aquarium, but the young larvae were killed five weeks later by a sudden spell of hot weather. Larvae of several species were found, a number of which metamorphosed, as will be shown later.

I. *The Water Newt* (aquatic form) was collected in a pond near the Moravian Cemetery. The Red Eft or terrestrial stage of this Salamander, represented by dark colored examples, while not totally absent from the Island, is not commonly found. Although I myself did not see or collect any, they have been reported to me by several observers. The Water Newt may be considered as common at the locality above mentioned, but not elsewhere on the Island.

II. *The Spotted Salamander*, which appears to have been fairly common in former years, is now seldom seen on the Island. Although one or two adult specimens were reported to me during the year, my own observations were limited to one specimen in the larval stage collected in the pond at the head of Reed's Valley. After about a week in captivity, this specimen metamorphosed, and at the present time is still alive and thriving.

III. *The Marbled Salamander*, known on Staten Island only from a few specimens taken many years ago, had long been thought to be extinct on the Island. It was, therefore, somewhat of a surprise, in February, 1931, to find that a large number of the larvae of this species had been discovered in the pond at the head of Reed's Valley. On March 14 some of the larvae were collected and placed in an aquarium. A number of visits were made to the pond to observe the development of the salamanders

in the natural state as compared to those in captivity. The last date on which they were seen was June 17 when it was quite evident that they must metamorphose in a short time. A visit in the early part of July failed to reveal any of the larvae in the pond.

Considerable numbers of the larvae were seen on each visit, and although no adult specimens were found, it was, of course, quite obvious that some must be present. The larvae kept in captivity metamorphosed over a considerable period of time, apparently relative to the time at which they were taken—that is to say, those that were taken first metamorphosed first, and those that were taken later metamorphosed at a still later date. This was probably the result of more abundant food supplied to those in captivity. The following table will give some idea of the variance of the date of metamorphosis as compared to the date of capture:

<i>Collected</i>	<i>Metamorphosed</i>
March 14	May 10
May 9	May 20
May 24	June 7
June 17	June 22

From observations made, it is reasonable to believe that all the larvae in the pond metamorphosed at approximately one time, during the latter part of June.

It was interesting to note that larvae of this species, soon after being collected, regurgitated small snail shells of the genus *Physa*, conclusive evidence that this snail constituted one of their articles of diet in the natural state.

Some of these salamanders collected as larvae, are still living in captivity.

IV. *The Red-backed Salamander* and its gray phase are to be found commonly throughout the Island. The wooded area near New Springville seems to be particularly favored by this species.

V. *The Red Salamander*, although not nearly as common as it formerly was, is still to be found in several localities on the Island. Both adult and larval specimens were taken at Richmond and Reed's Valley, while others were reported from the Silver Lake Region.

VI. *The Two-lined Salamander* is still common in a number of areas. As was stated before, the eggs of this species were found

attached to the under side of a flat stone in Ketchum's Mill Pond Brook at Richmond, and although they hatched, I was not successful in raising them.

VII. *The Dusky Salamander* is by far the most common of all the Salamanders on Staten Island, being found in both larval and adult stages in practically every brook or stream of clear, fresh water.

VIII. *The Slimy Salamander* was reported to have been seen in Clove Valley by Ernest F. Neilson many years ago, but none was collected and no other records are known for the Island.

IX. *The Four-toed Salamander*, now apparently absent from the Island, appears to have been a regular resident in former years. I have seen in the collection of Mr. William T. Davis a number of specimens taken on the Island. Some of these were dated as late as 1908, since when none seem to have been reported.

While it is hardly probable that the Slimy Salamander will ever again be found on the Island, it is hoped that subsequent work will reveal the Four-toed Salamander still living here.

Natural History Records from the Meetings of the Staten Island Nature Club¹

WILLIAM T. DAVIS

The meeting of June 27, 1931, was held in the Public Museum. Captain Thomas I. Miller talked on the Teredo or Ship-worm, illustrating his remarks with lantern slides. He said that the economic problems connected with the Teredo are among the greatest in the whole field of marine biology, and the destructive borings of the little animal are a menace to the safety of life on the sea. He also mentioned that the dikes in Holland were greatly damaged by it in 1733, as well as in later years, and great areas of land were threatened with inundation. In New York harbor the ship-worm is no longer the menace it once was. It is said that it has practically disappeared from the Narrows to Hell Gate. This is probably due to the pollution of our harbor through sewerage. In a bulletin of the Bureau of Fisheries under date of 1908, Prof. Chas. P. Sigerfoos, of the Univ. of Minnesota, has given a very complete study of the Teredo.

Mr. L. W. Anderson gave an account of his recent trip to the mountains of Tennessee.

Mr. Fred. C. Olwig reported a Weasel seen on the Arthur Kill road near the old Benham home. It was running along the road holding a mouse in its mouth.

Mr. Carol Stryker exhibited a series of photographs of a Copperhead snake caught at Lock Raven, near Baltimore, May 30, 1931. The pictures showed the proper method of using the snake-stick. He reported finding a Fish crow's nest, containing three eggs, in a wild cherry situated on the Oakwood meadows between Guyon Avenue and the incinerator. The nest was about 15 ft. from the ground and was unusual in that it contained no sticks, rather a mass of last year's wash-up that some high tide had deposited near to where the nest was built. Upon returning later it was discovered that the eggs had been thrown out of the nest, and

¹ These records have been compiled largely from the minutes of the club, Hans L. Stecher, secretary.

lay on the ground. An Osprey and a Great Blue Heron had been seen at Arbutus Lake on June 23, 1931. The Osprey after making its catch would fly inland. In going over the meadows between New Drop and Oakwood near the railroad three young Killdeer plover were discovered. The adults, as usual, tried to draw the intruders away by means of the "broken wing" trick. The young greatly resemble the adults in markings. On June 11, 1931, near Richmond Valley, an American Chestnut about 10 ft. in height and 2 inches at the base, was found to be in bloom. It bore, however, but three or four clusters of staminate flowers.

Mr. Hans L. Stecher stated that on November 19, 1930, he planted two acorns of the Chestnut Oak in one of the Museum terraria, which in a few months had developed into pretty little trees in the miniature landscape. A fresh-water mussel (*Unio*) collected in Budd's Lake, N. J., by Mrs. Frank A. Strauss, had proved to be a great traveler in one of the Museum aquaria and had to be removed because it uprooted the plants. Two Killies (*Fundulus heteroclitus*) taken from a brackish water aquarium, in a few weeks lost their pretty coloring when placed in a tank of fresh water. Being returned to the brackish water, they again, in due time, resumed their former colors.

On May 22, 1931, Mr. George B. Wilmott collected a young eel in Reed's Valley brook. It has continued in apparent good health to the present time.

The meeting of September 26, 1931, was held in the Attic of the Public Museum.

Mr. George B. Wilmott showed living specimens of the Spotted, the Marbled and the Red salamanders collected on Staten Island. The Marbled salamanders, now adult, were raised from larvæ collected in Reed's Valley last February. The Spotted salamander also from Reed's Valley was raised from the larval stage. The Marbled salamander had completed its metamorphosis in the early part of June, and the Spotted salamander about the middle of August. Mr. Wilmott commented on the striking similarity of the Marbled and the Spotted salamander larvæ just preceding the final metamorphosis.

Mr. Howard H. Cleaves reported that at Barnegat, N. J., a Herring gull had carried a clam aloft in order to let it fall on the

beach and break its shell. When the clam came down it accidentally struck a fisherman on the head, and injured him so severely that he died later in the hospital. Mr. Cleaves also stated that while visiting an estate near Albany, N. Y., he had been shown the nest of a House Wren built within an electric light porch lantern. In order to photograph the nest in such an unusual situation, he simply turned on the light and took the picture.

Mr. Wm. T. Davis showed a number of insects given to him by Mr. Joseph F. Burke, collected near Luzerne, New York, in August, 1931. Among them was the rock-inhabiting grasshopper *Circotettix verruculatus* that crackles its wings in flight and five specimens of the Cicada, *Tibicen canicularis*. Mr. Davis also had received some insects collected at Budd's Lake, New Jersey, by Dr. Frank A. Strauss, among which was the large dragonfly *Hagenius brevistylus* that sometimes captures large butterflies. He stated that he had visited Dr. Strauss at Budd's Lake and had collected the moth, *Catocala andromedae* on August 22, and had also found the wasps *Vespa maculifrons* and *Vespa vidua* in great numbers on the ground under a willow tree, attracted by the excrement or honey-dew, of the aphids inhabiting the tree. He further stated that the Angled-winged Katy-did, *Microcentrum rhombifolium*, had appeared in numbers on the Island during the summer of 1931, and that several had appeared in his garden at 146 Stuyvesant Place. It will be of interest to observe whether the species is as plentiful in 1932. Mr. Davis called attention to the Monarch butterfly which is again reaching a period of maximum abundance. On September 23, he and Dr. Wm. H. Wiegmann had witnessed toward evening, many of the butterflies flying to an elm tree for the night in the old Lake place on the edge of the salt meadow at Oakwood. In 1920 the Monarch butterfly was scarce, but had regained its numbers by 1922 and 1923. (See Journal, N. Y. Entomological Society, December, 1929, p. 341). Also on September 23 on Oakwood beach Mr. Davis, Dr. Wiegmann and Mr. J. P. Magee had cooked some king fish, caught by the latter, very successfully in a pan by simply dropping a little sea water on the fish to keep them from becoming too dry. A King fish preserved in alcohol for the collection, was shown.

At the end of summer the beach at Oakwood is sometimes strewn with *Sertularia*, as for example, after the storm of early October, 1929. On September 23 there were many masses of *Sertularia* and mud, that had been rolled together on the beach until they formed symmetrical masses, usually about the size of an apple. As happens with hard rocks that have been rolled about for countless years, the majority of the masses of *Sertularia*, and detached fragments of the more compact meadow peat, take on the same symmetrical flat-oblong form; a few are egg-shaped, and still fewer nearly round.

Three of the species of grasshoppers responsible for the great damage to crops and other vegetation in North and South Dakota during the past summer were shown. They were *Melanoplus differentialis*, *Melanoplus bivittatus* and *Melanoplus femur-rubrum* all sent by Prof. H. C. Severin from Brookings, South Dakota, and *Melanoplus bivittatus* sent from North Forks, North Dakota, by Mr. M. R. Benson.

Mr. Carol Stryker stated that during the latter part of September, 1931, an Angled-winged Katydid gained entrance to his home at West New Brighton and stayed for more than a week. In the evening he would answer the calls of the Katydids in the trees outside. He became tame enough to eat food from the hand, and finally departed by the same opening in a window screen through which he had gained entrance.

A Chipmunk tamed by Lester Thomas at his camp in the Adirondacks near Lake Luzerne, N. Y., was also mentioned. The animal could be fed from the hand and would pack his cheek pouches as full as possible, assisting the operation with his front feet. He seemed to have three store houses, each of which was being filled for future needs. On one occasion he took a double salteen cracker from the table and tried to carry it away.

Mr. Hans L. Stecher stated that he had found it quite difficult to obtain a sufficient number of live insects for the various inhabitants of the Museum terraria. For that reason, as well as for economy, he had found it of advantage to train as many of the animals as possible to take raw meat or fish, during the winter months. It can be accomplished with a far greater number of terrarium inhabitants than is generally supposed. It is found that

most salamanders, including newts, nearly all fish, and occasionally snakes, can be induced to take bits of raw beef or fish. A Florida Brown-headed Skink or Blue-tailed lizard has taken meat regularly for over a year. Even several of the toads have found it better to take the offered meat than be fussy and starve. A little patience seems to be all that is necessary in order to educate the inhabitants of the terrarium. Praying Mantids, Tiger beetles, Ground beetles and also Earwigs, will feed on bits of beef, while the Earwigs are also fond of cast snakes' skins. Tarantulas will also feed on raw beef or fish.

A great many Praying Mantids were reported from many parts of Staten Island, Brooklyn and Manhattan. In one case a Mantid alighted on the 14th story of the Woolworth building; another was found travelling on a ferry boat from the Island to Manhattan.

The meeting of October 24, 1931, was held in the Public Museum.

Mr. George B. Wilmott reported two European Goldfinches seen in Prospect Park, Brooklyn. It is believed that they are escaped cage-birds, or possibly they were liberated.

Miss Gladys Hotaling exhibited a *Pseudotriton ruber* salamander larva.

Mr. Lester Thomas exhibited branches of the three species of Chokeberry, *Aronia atropurpurea* Britton, Purple-fruited Chokeberry; *Aronia arbutifolia* L., Red Chokeberry, and *Aronia melanocarpa* Michx., Black Chokeberry, all of which occur on Staten Island. Mr. Davis pointed out that Staten Island was the type locality for the first-named species.

Mr. Carol Stryker reported finding three jumping mice and two field mice that had been drowned by falling into the shafts sunk near the pumping station in Willow Brook Park. They have been added to the Museum collection. He had visited, with Mr. John Rader, the Indian Village sites at Tottenville and Morgan's Point. At Tottenville a flint scraper was found along with the usual flint and jasper rejects. Directly opposite the Conference House along Hylan Boulevard and about 18 inches from the surface along the edge of the bank, indications of an Indian sweat-lodge were found. About 24 stones of the right size and showing evidences

of having been heated and water cooled for sweat lodge use were found. At Morgan's Point he found a perfect specimen of an argillite fishing point. On October 17, 1931, Morgan's Pt. was again visited with some of the Woodcrafters, when 4 arrow points, 2 hammer stones, an arrow shaft smoother, a flint knife, a small Indian paint pot, and a perfect trade bead were found. Ruth Winsor, Robert Sleight and Louis Kerr found some of the objects. A yellow jasper arrow point was found along a wood path near the Bay Terrace station on August 9, 1931, on the occasion of the walk of the Bird Club.

Mr. Wm. T. Davis stated that there was a flight of moths on the warm evening of September 18, and that he had collected in a few minutes the following species at the windows of a Staten Island ferry boat: *Alabama argillacea*, the southern cotton-moth; *Prodenia ornithogalli*, the cotton cut-worm; *Laphygma frugiperda*, Fall army-worm and *Heliothis obsoleta* (*armiger*), the corn-ear worm. On September 27 a Black Witch moth, *Erebus odora*, was collected in a culvert of the old cross Island railroad in the woods between Richmond and the Fresh Kill Bridge. This large moth, with a wing expanse of nearly six inches, is a native of the south, but flies occasionally many miles northward.

Mr. Davis further stated that on August 30, 1931, he and Mr. Joseph F. Burke had examined the remaining small clump of *Hudsonia tomentosa* growing near Page Ave., Richmond Valley. On October 12 Mr. George B. Wilmott had shown him a very small clump near Bogardus Corners, Pleasant Plains. He exhibited herbarium specimens and also the moths *Syneda graphica* and *Syneda oculata*, and stated that since the almost total extinction of *Hudsonia* on the Island, the pretty *Syneda* moths which fed on the *Hudsonia*, had apparently disappeared. None had been seen for a number of years.

On October 12 a considerable number of Indian implements were found near Morgan's Point. A jasper arrow head, found with about one half of its length protruding from the soil, point upward, and rather firmly imbedded; part of a broken banner-stone; a hammer-stone that had also been used as a rubbing stone, and a broken flint arrow-head. From near Rossville also on October 12 a crude axe, or hoe $6\frac{1}{2}$ inches long. Mr. Walter Klein-

felder and Mr. Everett C. Lerch had found several additional implements. As usual on an Indian site a number of symmetrical stones were found, the flat oblong form prevailing.

Mr. Davis showed a seventeen-year Cicada pupa-shell collected near the Clove at Concord, by Mr. George B. Wilmott, August 30, 1931, and suggested that it represented a forerunner or precursor of Brood VI, that will appear on the Island in June, 1932.

Mr. A. W. Callisen read a very interesting paper entitled "Great Pan is Dead," being his memories of a more rural and beautiful Staten Island. "Yes, sweet are the memories of the earlier rural, unspoiled Staten Island to old uncle Toby, for to him the march forward in many respects seems a march backward—at least from his personal point of view.

"What a bosky place of beauty was Richmond Terrace in those days, lined with stately country-houses and so overshadowed by lofty branching elms that one drove through a veritable tunnel of cool green verdure.

"There was no railway, and a strip of sloping turf across the roadway led to the bath-house and boat-landing. Here giant willow-trees flung a grateful shade, and there were benches where the nursemaid sat and sewed while Toby Wee played about the somewhat stony beach below.

"The bath-house, a large affair, had a slatted floor and two depths, for children and grown-ups, and a door behind opened for the more venturesome to swim out into the open.

"The water was clear as crystal and of a beautiful bottle green, and there were ropes fastened to the rafters which one could hold and be dragged by the strong current which prevailed at certain stages of the tide.

"Then what joy, when dried and dressed after the bath, to sit on a bench and watch the numerous craft and steamboats, the Pomona, Flora, Josephine, Huguenot, Hunchback, Red Jacket, Thomas P. Way and many others that plied the Kill van Kull and the Bay. I recall so vividly the sweet tones of the steamboat bells as they neared the New Brighton landing, and the rhythmic beat of the paddles which could be heard even before the boat hove in sight.

"Out on the glittering water oystermen plied their tongs and oyster rakes from heavy flat-bottomed skiffs, while large and small sailing craft passing to and fro, made an animated marine picture.

"The New Jersey shore, unspoiled by factories, greasy docks and oil tanks, was green and rural, with here and there a white villa or farmhouse half hidden in the trees. A sweet peace brooded over the smiling water and landscape."

In later years Uncle Toby, then living in New York, often visited Staten Island, and tramped over hill and dale—no longer quite as fresh and rustic as in his boyhood, but still with vast stretches of thoroughly rural country in the interior or along the shore.

In 1906 he sold his school and came to Staten Island, living in Townsend Avenue, and again explored the Island with even greater thoroughness. So time passed and Uncle Toby saw the woods destroyed in many places, the ground burned over with the death of the wild flowers, and the coming of many undesirable conditions that marred the rural beauty of our Island. "The community is saved," he truly states, "not more by the righteousness of men, than is the neighborhood by the swamps that surround it. They are the last refuge of nature. Yes, we must preserve some of the primitive lest our souls wither and perish like the bloodroot and the gentians."

Mr. Hans L. Stecher stated that he had dropped two empty shells of the Dog Whelk (*Nassa trivittata*) into an aquarium containing a hermit crab already housed in a dull colored shell. The crab soon came to investigate the bright colored new shells and quickly transferred himself to one of them. This as Mr. Stecher remarked has often been observed "but it is quite a treat to see it happen in one's own aquarium." Mr. Stecher also reported several White-armed Sea-anemones (*Agartia leucolena*) collected on Glen Island, Long Island Sound, at low tide, as still alive and doing well. A Great Gray Slug (*Limax maximus*) 5 inches in length, collected by Carl Lerch at Westerleigh, Staten Island, on Sept. 17, 1931, was kept by Mr. Stecher in a small terrarium. About a month after being placed in the terrarium it laid a cluster of eggs, which hatched on October 22, 1931, several dozen in

number. It was of interest that the young snails closely resembled in appearance the droppings of their mother. This snail and its habits are described in Farmers' Bulletin 959, U. S. Dept. of Agriculture, 1918.

The meeting of November 28, 1931, was held in the Public Museum.

Mr. Everett C. Lerch exhibited a number of Cretaceous fossil shells, which he and Mr. W. C. Kleinfelder had collected at Atlantic Highlands, N. J., October 31, 1931.

Mr. George B. Wilmott stated that the spotted as well as the Marbled Salamanders collected in Reed's Valley had grown considerably.

Mr. Howard H. Cleaves said that the Herring gulls in the bay are becoming comparatively tame in recent years. On several occasions he noticed them perched on the ferry docks without being much disturbed by approaching vessels.

Mr. Davis referred to the record of the January 28, 1928, meeting of the Nature Club which contains a report on tame Herring gulls.

Mr. Junius Bird stated that he had seen a sociable gull that would alight on the back of a pelican.

Miss Katharine S. Seaman gave an account of her efforts to stop hunting on the Island; also the enforcement of the law prohibiting the discharge of firearms within the City limits. She had received aid from the Police Department and game wardens. W. Leslie Conner, a game warden, had always rendered assistance, as had Inspector George Ferre. Of late years the Courts have also been more severe with offenders in the matter of the discharge of firearms.

Mr. Wm. T. Davis read a letter from Miss Dorothy Day, now in Florida, descriptive of some of the natural objects found at Coral Gables. He called attention to the poems "November 14, 1931," and "Along the Willow Brook," by Mrs. Carolyn B. Lyman, descriptive of the November walk of the Staten Island Bird Club. Mr. Junius Bird was present and Mr. Davis showed a reprint of the paper on "The Bartlett East Greenland Expedition" of 1930, by Capt. Robert A. Bartlett and Mr. Bird, from the *Geographical Review* of July, 1931. Mr. Davis also showed the re-

cently published Abstract of the Proceedings of the Linnaean Society of New York, containing ornithological observations for the years 1928 and 1929. Oakwood Beach is often mentioned and observations recorded on the Parasitic Jaeger, Little Gull, Caspian Tern, Sooty Tern, Short-billed Marsh Wren, Curlew and numerous other birds.

Mr. Davis recalled the flight of the moth *Scepsis fulvicollis* seen at Oakwood Beach, October 10, and stated that both the New Jersey and New York State lists of insects record the species from June to September, but as far as Staten Island is concerned it should be from May to October. He had taken it as late as October 21st, in 1900.

The Mantis (*Paratenodera*) had been unusually common at 146 Stuyvesant Place, this summer, and apparently the last one living there on the sunny side of the house, succumbed to the cold weather of November 7, when ice to the thickness of $\frac{1}{18}$ of an inch formed on a pail of water. All fall insects did not die, however, for the warm weather of November 21 to November 24, when the thermometer usually recorded over 70 degrees during the warmer hours of the day, brought forth numerous butterflies. He showed a male and female *Colias eurytheme* and a female *Colias philodice*, and also a supposed male of the former species, collected near the docks at Tompkinsville, where these butterflies were not uncommon until the cold weather of November 25. He pointed out that the light colored male with all of the wings narrowly margined with black, that tentatively has been identified as *eurytheme* form *criphyle*, has the fore wings less clouded with orange, than is usually the case in the males of *eurytheme*. He called attention to the article by Austin H. Clark on "The Extirpation of one Butterfly by Another," published in the *Scientific Monthly* for August, 1931, and suggested that the specimen in question might be a hybrid between the two species.

A large, symmetrical stone, the shape of an ostrich egg, and weighing 12 lbs., 13 oz., was shown. It had been presented to the Museum by Mr. Henry Kreigsman, who had found it in the glacial drift material at Ft. Wadsworth in 1931. It was suggested that at one time it might have occupied one of the numerous "pot holes" along the river beds to the north of Staten Island. A sec-

ond stone of the same shape, weighing 5 lbs. 13 oz., found some years ago at Charleston, Staten Island, was also shown.

Mr. Percy L. Sperr reporting seeing a living Mantis at Rosebank on November 21, 1931.

The meeting of December 26, 1931, was held in the Public Museum.

Mr. George B. Wilmott showed a small bottle filled with bits of worn glass, smoothed pebbles and other material, the contents of a turkey's crop.

Capt. Thomas I. Miller reported Bluebirds, at his Annadale home, December 19; also Violets in bloom December 26, of which he exhibited a specimen.

Mr. Carol Stryker exhibited the nest of a leaf-cutting bee found by Floyd De Groff, and reported a Clapper Rail, December 19, and a Sharp-shinned hawk, December 26.

Mr. Carlton Beil showed the seed-pod of the Catalpa tree, and remarked upon the beauty of the seeds.

Mr. Wm. T. Davis called attention to the good work of Mr. Harold K. Decker, a life member of the Staten Island Institute, in his efforts toward the preservation of the Audubon House, at the foot of 156th St., Manhattan, which is to be re-erected on a site in Riverside Park at 161st Street, and restored to something like its original appearance. He showed Bulletin No. 129, U. S. National Museum, presented to the Institute by Capt. Thomas I. Miller. This bulletin on "The Spider Crabs of America" is by Miss Mary J. Rathbun, and it was pointed out that so far only the Common Spider Crab, *Libinia emarginata*, had been reported from the Island, while *Libinia dubia*, reported from Fire Island, Long Island, and Atlantic City, New Jersey, might occur here.

Mr. Davis spoke of the warm weather of December 12 on the occasion of the last walk of the Bird Club, when the temperature was 66°, a record for the Weather Bureau. A small garter snake had been tempted from its hibernation. More egg-masses of the Praying Mantis were found near Mariners' Harbor than have been discovered in any other part of the Island. It was pointed out that the Cecropia moth is apparently again increasing in numbers. For the past few years the cocoons have been quite scarce on the Island. On December 22, a Herring gull was observed sit-

ting on the end of the dock as the Staten Island ferry boat entered its Manhattan slip, and reference was made to the report by Mr. Cleaves on a similar observation in the minutes of the November meeting, and also to the report on Herring gulls on the pier of the ferry slip at St. George, presented at the meeting of the Nature Club, January 28, 1928. He reported a Song-sparrow at his home, 146 Stuyvesant Place, back of the Court House, on December 22 and 23.

A collection of five species of Cicadas from British Honduras, made during the past summer by Mr. Junius Bird, was shown. The "Uncle Toby" Callisen books, dating back to Christmas, 1923, were also shown. "The Curious History of Old Dr. Wango Tango, a Tale of Staten Island," the contribution for this year, was read by Mr. Callisen.

Mr. Howard H. Cleaves gave an account of the great congregation of starlings that assemble on a railroad office building near Albany. The building affords the starlings an excellent roosting place, and they apparently come from many miles away. The sight amazes many people, and Mr. Cleaves believes it to be the greatest congregation of starlings that he has ever seen. At times the backfire of an automobile will frighten the birds, and for a time nearly the whole flock will take to the air. On December 16, 1931, the birds began to assemble at about 3.30 p. m. at this remarkable roost.

Mr. Junius Bird gave an interesting account, illustrated with lantern slides and motion pictures, of life among the Eskimos of Greenland. He accompanied the Bartlett East Greenland Expedition of 1930. (See Minutes of the Nature Club, November 28, 1931.)

Mr. Howard H. Cleaves spoke of the impending commercial development of Admiralty Island, Alaska, by pulpwood interests. As the Island is one of the main refuges of the Alaskan Brown Bear, there is considerable danger of their number being greatly reduced. Mr. Cleaves suggested that the Nature Club pass a resolution and address a communication to Senator Walker requesting that the Island be set aside as a sanctuary for the Brown Bear. The resolution was passed and Mr. Cleaves was authorized to write the letter.

The meeting of January 24, 1932, was held in the Public Museum.

Dr. Frank A. Strauss showed a whip, the lash of which was made of the inner bark of the same branch of a Lace-bark tree grown in the West Indies.

Miss Gladys Hotaling stated that she fed her salamanders with young Praying Mantids, the egg masses of which are now very common on the Island. The Mantids hatch soon after the capsules are brought indoors.

Mrs. Mary A. Seery reported dandelions in flower at Tottenville.

Captain Thomas I. Miller showed a copy of the Report on the Invertebrates of Vineyard Sound, published in 1871 by the U. S. Commission of Fish and Fisheries, and recommended it as a very useful publication. He also showed a pamphlet on the "Blue Crab" issued by the Government Printing Office.

Mr. Carol Stryker, on January 26, 1932, at the Morgan's Point Indian Village site, found a flint arrow point and a pecking stone, and a tooth of a mackerel shark on the Indian village site at Richmond Valley, also in January. He reported seeing eight Great Blue Herons near Lake's Island, January 26, 1932.

Mr. Wm. T. Davis gave an account of the colony of *Conopholis americana*, a parasitic plant of the Broom-rape family, reported as growing on Todt Hill on the roots of a red oak in the Proceedings of the Natural Science Association of Staten Island, May 11, 1895. A further record of the colony is to be found in the Proceedings of the Staten Island Nature Club, November 24, 1922. The *Conopholis* has been known as parasitic on the roots of this particular red oak for about 38 years, and appears to be still doing well. The host tree is also in good condition. The walk of the Staten Island Bird Club of January 9, 1932, was made in the rain, and the *Conopholis* was visited by thirteen members, the plant being new to most of them. It is the only known colony on the Island, and the species, so far, has not been recorded from Long Island.

Mr. Davis also showed specimens of two species of Ascidians, namely, the Sea-Grape, *Molgula manhattensis*, De Kay, 1841, and *Botryllus schlosseri* Pallas, 1778, both of which were found in

numbers on the shore at Ft. Wadsworth, Staten Island, December 27, 1931. He called attention to an account of these animals by Willard G. Van Name in "Natural History" (Am. Museum) for 1925, pp. 241-249, and to the recently published volume, "Between the Tides," by William Crowder, which adequately describes the animal life of the seashore about New York City.

Mr. Davis further reported that on January 14, when the thermometer was 68°, that he and Mr. Joseph F. Burke had visited Ft. Wadsworth Reservation, and had observed two dandelion blossoms. A Tenax fly (*Eristalis*) was on one of the heads of flowers, and a honey-bee was also observed. Bee-keepers in general report activity among the bees. On January 15, 1931, the filled-in area at Tompkinsville was visited and it was found that the Colts-foot had evidently been in bloom for some time. Eighty-nine flowering heads were counted, and also one Dandelion.

Christmas Bird Census, 1931. Staten Island, N. Y. (several localities from Fort Wadsworth to Tottenville). December 27; 7 A. M. to 5 P. M., Clear; ground bare, slightly frozen; wind northwest, light; temperature about 32 at start, rising. About five miles on foot, observers mostly together; automobile used. Loon, 1; Red-throated Loon, 3; Horned Grebe, 2; Double-crested Cormorant, 1; Great Blue Heron, 6; Red-breasted Merganser, 1; Black Duck, 60; Greater Scaup Duck, 12; American Golden-eye, 19; White-winged Scoter, 9; Marsh Hawk, 1; Sharp-shinned Hawk, 1 (Decker); Red-shouldered Hawk, 2; Rough-legged Hawk, 2; Duck Hawk, 1; Sparrow Hawk, 5; Ring-necked Pheasant, 6; Killdeer, 11; Great Black-backed Gull, 12; Herring Gull, 683; Laughing Gull, 1 (Rich); Bonaparte's Gull, 550; Mourning Dove, 8; Barn Owl, 1; Screech Owl, 2; Downy Woodpecker, 3; Northern Flicker, 4; Blue Jay, 6; Crow, 136; Fish Crow, 2 (Stryker); White-breasted Nuthatch, 5; Winter Wren, 1; Long-billed Marsh Wren, 1; Myrtle Warbler, 4; Robin, 3; Bluebird, 2; Northern Shrike, 1; Starling 395; Meadowlark, 33; American Crossbill, 9 (feeding on sweet gum seeds); Gold finch, 32; White-throated Sparrow, 3; Tree Sparrow, 84; Field Sparrow, 4; Slate-colored Junco, 24; Song Sparrow; 63; Swamp Sparrow, 2. Total 47 species, about 2217 individuals. All members of party equipped with 8x or 10x binoculars. Dr. James P. Chapin, Marc

C. Rich, Harold K. Decker, Carol Stryker, Capt. Thomas I. Miller, Howard H. Cleaves.

The meeting of February 27, 1932, was held in the Public Museum.

Mr. Howard H. Cleaves reported two male Red-winged Blackbirds together with a flock of 15 Starlings near Ft. Wadsworth Reservation on February 27, 1932.

Mr. George B. Wilmott showed a species of *Hemicardium*, a shell from China, unusual in its form and very delicate.

Mr. Wm. T. Davis stated that the sea had worn deep, cave-like excavations in the bluff on the shore north east of Wolfe's Pond at Princes Bay, and showed photographs taken February 5, 1932. This is the locality of the cave mentioned in the Proceedings of the Natural Science Association of Staten Island, October 10, 1903. At La Tourette Park on February 6, sixteen geese were observed flying over in a south westerly direction. On February 7, when it was very warm for the season, a Garter-snake was found sunning itself on a boulder by the edge of the salt meadow; there were many Herring gulls about their inland roost on Main creek of the Fresh Kills, and also about 100 Crows on the salt meadow. The Ribbed Mussel (*Modiolus plicatulus*) is quite common along the meadow creeks even as far inland as Travis Ave. The crows, when possible, get the mussels and open each one by breaking an oblong piece out of one valve only, and thus secure the soft parts of the Mollusk.

Mr. Davis further stated that he and Mr. and Mrs. Cleaves had visited the Ricklefsen family at West Long Branch on February 14, and found that they had been cutting lettuce all winter from several rows growing in the open in their garden. Myrtle (*Vinca*), Pansies, Dandelions, and Jessamine flowers were also in his garden on February 14. On February 22 a bush of Japan Quince was found quite fully in flower in the garden of the Perine House, 1476 Richmond Road, Staten Island, and it was reported that it had been in flower most of the winter. Skunk Cabbages have been in pollen for some weeks in many places on the Island.

Mr. Hans L. Stecher showed some Sea-anemones, *Sagartia leucomelaena*, which he had collected on September 9, 1931, half a year ago, in a tide pool on Glen Island, Long Island Sound, N. Y. One

of these, when fully extended measures 3 and $\frac{1}{8}$ inches. He also reported that he had found a tick attached about one half inch back of the right eye of a Central American Boa, said to have been imported in a banana ship. The snake was presented to the Museum by Mr. Harold J. O'Connell.

Mr. Carol Stryker showed small mites in a vial, which were taken from the eyelids of a skunk found in Connecticut, and now being mounted for the Museum's collection. He also exhibited a fossil found in the Moravian Cemetery. It had been submitted to Dr. Arthur Hollick, who made the following report: "This is an unusual and exceedingly interesting specimen, if it was actually found in the morainal drift of Staten Island, and was naturally in place where found. It is a fossil seed-like fruit (*Carpolithus*), and resembles those that have been placed in the *Rhabdocarpon*, of Carboniferous age. But there are no outcrops of Carboniferous rocks in the direction of glacial movement, from the northwest from which it could have been derived.

"The only inference that appears to be possible is that it might be of Devonian age, and that it might have come from the Catskill region. In that case it would represent a new generic type."

The photographic exhibition proved to be of much interest, due to the efforts of the chairman, the committee in charge and the cooperation of the members. After a short introduction and comments on books and pamphlets that had been sent by some of the foremost dealers in photographic articles, and on other literature, the chairman, Mr. Percy L. Sperr, thanked the members for bringing so many fine and interesting pictures. He stressed the importance of noting the date, locality and other data on the back of each photograph.

Mr. Everett C. Lerch explained the method used by him in taking pictures of insects. Many of those exhibited were of natural size, and others enlarged, all showing fine detail.

Captain Thomas I. Miller proved by his exhibit what excellent results can be obtained even with the use of a two dollar camera.

Mrs. Thomas I. Miller showed colored pictures of two poisonous mushrooms of the genus *Amanita*.

The photographs taken on the various walks of the Bird Club, dating from 1919 to the present time, were also shown.

The meeting of March 26, 1932, was held in the Public Museum.

Mr. Everett C. Lerch showed several Indian arrowheads that he had collected during March in the region of Benedict's Creek and Morgan's Point, Staten Island.

Mrs. Thomas I. Miller reported a Cardinal and a Purple Finch in her garden at Annadale, and this morning in the garden, or nearby, Pheasants, Crows, Juncos, Robins, Fox Sparrows, Starlings, a Flicker and House Sparrows. The latter go into the Bluebird houses, which are on poles, and are thus undesirable nesting places for the sparrows. They, however, annoy the Bluebirds. Mrs. Miller stated that as each species of bird is observed in her garden she segregates its card from the Audubon Series. So far there were about fifty cards in the collection.

Captain Thomas I. Miller had brought a very small electrical machine mounted by him. The machine worked well and was supposed to have about 1000 revolutions per minute—a "three electric power affair," according to Capt. Miller, but never the less, in principle, the same as the large machines.

Miss Marion Olwig showed a dried plant with silvery, disc-like, translucent seed-pods, which was identified by Miss E. O. Long as *Lunaria*, a plant of Europe and West Asia, and sometimes escaped from gardens.

Coltsfoot and Japanese Quince were found in blossom, the latter on January 9, by Mrs. Soriano.

Mr. Savo spoke of the destruction of shade trees and the wooded areas of the Island. He thought that we were suffering a great loss, much to be regretted.

Mr. Wm. T. Davis read a letter from Mr. Arthur H. Helme commenting on the article in the last number of the Proceedings of the Institute on Shell Pellets, also a letter from Mr. Roy Latham, of Orient, Long Island, recording the wasp *Polistes palmeri* flying about on February 16; *Vanessa antiopa* butterfly on March 2, and two DeKay's snakes sunning themselves on February 29. Mr. Latham further stated in his letter of March 12, that wild geese are still coming daily to grain fields—from fifty to one hundred daily. The Snow Goose is with them each day and the 'white goose' is becoming quite a landmark in Orient."

Mr. Davis stated that the Colts-foot had gone to seed by March 2 near the docks at Tompkinsville; a *Polistes pallipes* wasp was seen flying about at Ft. Wadsworth, March 3, while maples and alders were in pollen on March 5. He further stated that the Indians of old time could easily have procured for paint, clay-like, adhesive material, from the side of Todt Hill, of at least three distinct colors. He showed as samples, specimens of a bright red, a dark purple-red, and a yellow color, and said that the material from the locality was known to the farmers of a generation or two ago, as "Todt Hill Paint," and was sometimes mixed with their white-wash to give the barn a particular tint. He stated that symmetrical water-worn stones were probably more common in the now abandoned old Rainbow Clay Pit at Charleston, than any where else on the Island.

Eight *Cecropia* cocoons opened by mice, and collected in Van Cortlandt Park, February 21, 1932, by Miss Helene Lunt, were shown. From four of them the mouse had extracted the pupæ; two contained many pupæ of a Hymenopterous parasite, and the remaining two had not been much disturbed, the outer covering merely opened with a tiny hole in the inner and compactly woven covering of the pupa. With a scissors a small piece was snipped out of the side of each of the two cocoons, and it was found that the pupæ were covered with a white fungus, no doubt distasteful to the mouse.

A conserve made from cranberries, oranges and sugar, had been brought to the Museum by Mrs. Lola M. Barnes, of New Dorp, because the surface was covered by mould of three colors; yellow, bright salmon, and a brown, each color occupying about a third of the surface.

Mr. Hans L. Stecher mentioned the three salt water aquaria in the Museum, each of three gallon capacity, in which he is keeping five species of anemones, namely: *Sagartia leucolena* from Long Island, N. Y.; *Sagartia luciae* from Staten Island, and three species from the North Sea, Germany. He cited Mayer in "Sea-shore Life," describing the length of *Sagartia leucolena* as somewhat more than two inches, the tentacles about one inch. Some of the *leucolena* in the Museum aquaria now much exceed two inches in length, one being $3\frac{1}{2}$ inches when measured on March

25, 1932; the other somewhat longer than $3\frac{7}{8}$ inches. When it was measured on March 17 this last mentioned specimen was $3\frac{3}{4}$ inches, with a small portion penetrating the sand. The special care and feeding that the anemones have received probably accounts for their considerable size.

Mr. Stecher also exhibited a miniature aquarium of about $\frac{1}{2}$ pint capacity arranged February 15, 1932, and containing the plants *Elodea canadensis* and *Lemna minor*, a baby Guppy (placed there shortly after birth), and a number of Red Ramshorn snails, *Planorbis corneus*. The aquarium was doing well. He further reported three large ticks attached to the upper part of the head of a Central American Boa, $3\frac{1}{2}$ feet long, that had been brought to the Museum. Some ticks had also been found on a King snake, attached to the sides of the body toward the front part.

Mr. Howard H. Cleaves spoke on "Photography of Wild Life by Flashlight." He gave a short history of the subject and pointed out the newest methods in use. The lecture was supplemented by beautiful lantern slides and a flashlight photograph was taken of the members present.

The meeting of April 23, 1932, was held in the Public Museum.

Director Charles W. Leng reported on the books recently purchased for the Museum library.

Dr. James P. Chapin gave an account of a visit to Eltingville on the evening of April 20th with Howard H. Cleaves, Wm. T. Davis, and Everett C. Lerch, with the object of seeing the nuptial flight of the male Woodcock resident there at this season. The bird was quickly located. It would buzz at intervals of about three or four seconds while on the ground, and then would fly aloft a hundred feet or more. On its descent it uttered still other and more pleasing notes until it once more reached the ground. A woodcock's nest was discovered at this locality on May 10, 1930, during the walk of the Staten Island Bird Club by Mr. Hans L. Stecher who nearly stepped upon the nest.

Dr. Chapin also reported on the Bonaparte's Gulls seen in considerable numbers from the ferry boat. He described the bird and its habits and stated that it was fond of waters where currents meet.

Mr. Carol Stryker had seen an Iceland Gull at St. George near the ferry slip on March 3, 1932. Also a Turkey Vulture at Richmond, April 23. On the same date a Cardinal was in full song and he had seen a Least Flycatcher, a Black and White Warbler, and a Yellow Palm Warbler.

An Indian arrow point found at Morgan's Point by Ruth Winsor was shown.

Mr. E. C. Lerch showed photographs of Coltsfoot flowers taken at Tompkinsville, April 23, 1932.

Mr. Carlton Beil reported seeing a Brown Creeper on the horsechestnut tree in front of the Museum, and exhibited colored, life-like casts of a Ringneck snake and a Spotted salamander. They have been added to the Museum's collection.

Mr. Hans L. Stecher reported on a Central American King-snake that had been brought to New York on a fruit steamer and later presented to the Museum by Mr. Harold J. O'Connell. When it was received there were several wounds on its body, one, especially bad, on its neck. A young white rat the size of a mouse was offered the snake, but not eaten at the time. Later the young rat was seen on the snake's neck, the latter being too weak to fight off the attack. A further examination disclosed the fact that the rat had also eaten the flesh from about two inches of the snake's tail, the extremity now appeared still and lifeless. The snake thereafter was forcibly fed with bits of raw meat, and has considerably improved.

Mr. George B. Wilmott had prepared a paper on the Salamanders of Staten Island, to be published at a later date. Of the nine species reported from the Island, he had found seven in Reed's Valley, Dongan Hills. Several of the species had been raised by Mr. Wilmott, who had also liberated some Tiger salamanders in Reed's Valley.

Mr. Wm. T. Davis read an account, copied from the Richmond County Gazette of November 24, 1886, of a skunk that was shot on the Richmond Road near the Old Town Road in November, 1886. This animal is probably now extinct on Staten Island, but was not uncommon in 1886 and 1887 (See Museum Bulletin, April, 1932).

A Herring Gull shell pellet found on the beach at Oakwood on March 30, 1932, was shown. Before it was broken this pellet was

of the size and about the shape of an English walnut. Mr. Leonard W. Wing, Division of Birds, University of Michigan, had written that he had found the paper on shell pellets published in volume 6 of the Proceedings of the Staten Island Institute of Arts and Sciences of much interest, and that he had not noticed any such pellets on the shores of the Great Lakes. A fine specimen of the Finger Sponge (*Chalina oculata*) collected on Oakwood Beach, March 30, 1932, was shown.

Mr. Davis also exhibited a short-tailed meadow mouse found on a wood-path in the Fort Wadsworth Reservation, March 3, 1932. This species of mouse is often found dead on wood-paths, where they have been dropped probably by owls. Mr. Davis stated that the Periwinkle, *Littorina littorea*, that had been placed in a corked bottle, November 23, 1930, with a small quantity of sea water, had lived until about April 1, 1932, and had apparently died as the result of placing the bottle in a situation where the rays of the sun made the water too warm. This particular *Littorina* is mentioned in these minutes for January 24, 1931, and April 25, 1931.

The meeting of May 27, 1932, was held in the Public Museum. Capt. Thomas I. Miller exhibited a copy of a recent paper on Staten Island geology, entitled "Kaolinite from the Terminal Moraine of Staten Island," by Paul F. Kerr, Columbia University. The paper appeared in the American Mineralogist, January, 1932. The locality described is an excavation in the bank along Bayview Avenue to the west of Lemon Creek at Princes Bay, just above Hylan Boulevard. Here was found a deposit of clay, apparently transported by the glacier. In this paper Mr. Kerr states that while such clays have previously been recognized as Kaolin, this is the first time the clay mineral has been determined as Kaolinite of modern definition. Capt. Miller exhibited specimens of the clay and showed a slide of it under the petrographic microscope.

Mr. Wm. T. Davis stated that Brood VI of the 17-year Cicada was about to appear on the Island, and that pupæ had been found near the surface of the ground in some localities in New Jersey. It was not expected, judging from the appearance of the brood on the Island in 1881, 1898, and 1915, that the Cicadas would be very numerous. He recorded several specimens of the butterfly,

Colias eurytheme, seen this spring indicating that the species would be plentiful this year.

He showed photographs taken May 19 near Annadale, Staten Island, of some native pitch pines; of a clump of 5 large trunks of a pin oak arising from the same base, referred to as the "Five Brothers"; of a flourishing nest of the Mound-building ant, about 7 ft. in diameter, and of a Moccasin flower nearly open. This last mentioned orchid, which was once common in places on the Island, has become quite rare in recent years.

He also showed photographs of the peat-bog fire at Concord, Staten Island, taken May 25, when, owing to the dry weather, the fire, which has probably not been out since 1929, was burning quite vigorously, and giving off much smoke. In at least three separate places it had kindled surface fires and the dry leaves were burning. The peat was reduced in places to a soft and whitish colored ash, much finer than any observed in October, 1930. He showed specimens and referred to the published minutes of the Nature Club for November 23, 1929, and October 25, 1930.

Mr. George B. Wilmott reported 24 Canada Geese flying over Stapleton on May 9, and that he had found the eggs of the Spotted salamander in Reed's Valley on April 27, 1932.

Mr. Hans L. Stecher reported that the Kingsnake mentioned at the April meeting as having been badly treated by man and the white rat, had entirely recovered, and proved not only to be a fine specimen, but also a fine pet. With the aid of several sprinklings with water, its skin had been successfully shed. One of the eyes of a medium sized Milk-snake had been covered by old eye skins for several months until a short time ago, when Mr. Stecher operated on the eye. A pair of fine pointed and curved tweezers were used, and after one layer had been peeled off the remainder was removed more easily. The application of water was found helpful. The accumulated skin proved to have seven layers in all, which were exhibited. An Indigo Snake from Florida had been treated for sores on its mouth and minor wounds on its body, with weak disinfectants, and by washing in plain water. The snake appears to be in good health as a result.

Mr. Stecher further stated that the Museum now had a collection of 14 species of living snakes together with some duplicates. The species represented are: Central Am. Boa, from fruit-ships,

Milk, Corn, Chicken, Black (Racer), Indigo, Hognose, Water, Bull, Pine, Chain, Garter, Blotched King Snake and Cuban Grass-snake. The housing of the snakes in their present quarters had been made possible through the generosity of Mr. Harold J. O'Connell, who has also secured a number of the specimens for the Museum.

Mr. Stecher reported that the pair of White Crowned Pigeons brought to the Museum in April, and said to have come from one of the keys of southern Florida, had been placed in a temporary cage, on the floor of which two white eggs were discovered on the morning of May 25. As the Ringneck Doves were provided with a nest, the eggs were given to them but later were thrown out of their box.

On May 22, 1932, two Brown Sea Anemones, *Metridium dianthus*, were collected at Hunter's Island, no other species being found, while on Glen Island *Sagartia luciae* is quite common, also found on City and High Islands, and fairly common on Staten Island.

Mr. Howard H. Cleaves reported seeing on May 21, at 8:30 in the morning, about fifty Turkey Buzzards soaring over the Delaware Water Gap. He also reported a Hudsonian Curlew on the marshes near Pleasant Plains, and said that about 28 species of birds had been observed near his new home.

Mr. Joseph F. Burke illustrated two of the publications of the U. S. Bureau of Mines on gem stones, with specimens from his own collection. One paper was on Quartz gem stones and the other on Opals.

Mr. Carlton Beil had visited Kent Falls, Conn., on May 21 and 22, where he had collected in a nearby limestone quarry several Liverworts with fruiting parts. He explained that they required but very little soil. Some were found near the railroad tracks on moist ground.

Mr. Carol Stryker reported seeing a King-bird near the Museum, and a Chimney Swift was observed at dusk to drop into the chimney of the Staten Island Academy, opposite the Museum.

On May 8, 1932, a Wood Duck was observed at Flagg's Pond perching on the limb of a large white oak. Later in the day he was seen again on another tree. On May 14, an Indian arrow-head was found near Oakwood.

Literature Relating to Staten Island

Murder in Strange Houses, by Richard Peckham. Minton. Balch & Company. New York: 1929. 8vo, cloth, pp. 309.

This is a typical, somewhat cruder than usual murder-mystery-detective story, with characteristic chapter headings, such as "A clue in the ashes," "The mystery of Rose Kill Cemetery," "The strange house on the Kill," "The unseen horror," etc., etc.

The only excuse for noticing this book is that certain of the incidents in the story are staged on Staten Island and hence may arouse the curiosity, if not the interest of local readers. For example: "It was additionally discomfoting to have the cemetery in Staten Island. Staten Island! . . . Well, that showed that whoever had started the ball rolling probably lived in Staten Island. . . . But it didn't show that there was any easy way of finding out the murderer. You couldn't look at every one of the people in the Borough of Richmond. But you could look at a certain grave in the Rose Kill Cemetery, out beyond New Dorp. Rose Kill? Why Rose Kill? Oh, well, if it came to that, why anything?"

Possibly the above excerpt from the first part of the book may be sufficient to satisfy any desire to know more of the story; but, if curiosity has been aroused, it may be further simulated by learning that "The road by which they were travelling passed by the curious castellated entrance to the cemetery which Harper had visited only that morning. . . . After they passed through several towns. . . . Great Kills, Eltingville, Annadale, Huguenot, Prince's Bay, and Richmond Valley. . . . Harper knew that they were heading for the extreme southwesterly point of the Island. . . . The road itself was a kind of causeway above an expanse from which the tide had receded. . . . Presently there appeared . . . a dark rising mass which Harper took to be a kind of island in the sea of low-tide mud. . . . Presently the road slipped under the shadow of the elevation . . . stretching out at an even, shadowy height toward the black, hidden smoothness of Raritan Bay. . . . The dark mass of the house . . . reared up against the lighter darkness of the thickly starred sky. . . . Harper followed

into the dark hall. . . . The room which he saw before him . . . was a place of the utmost simplicity. . . . Harper was a little uneasy . . . [his] hand instinctively went inside his coat to the leather and metal holster which hung over his shoulder and supported his small automatic . . . the pistol was no longer there," etc.

The reviewer feels that his responsibility has ended, if what he has written has aroused any desire to continue the investigation any further; and that any critical expression of opinion in regard to the plot of the story, or its literary style and diction, may be left to the discretion of the readers—if any. A. H.

Notions of the Americans: picked up by a Travelling Bachelor. Carey, Lea & Carey. Philadelphia: 1833. In two volumes.

The author arrived in New York harbor on Monday, August 16, 1824, the day following the entertainment of Lafayette by Vice-President Tompkins—Leaving the vessel in which he had crossed the ocean he proceeded in a row boat to join in the reception tendered Lafayette at Tompkinsville. Some extracts from pages 33-45 are of interest. "The shores, on both hands, were "now dotted with marine villas and farm-houses, and the view "was alive with all the pleasing objects of civilized life. On our "left, a little distance above the passage [through the Narrows], "a group of houses came into view, and some fifty sail were seen "anchored in the offing." The group of houses he learned from the boatman constituted the "quarantine ground"—soon he saw "a fine aquatic procession, and that too on a scale of magnificence that was admirably suited to the surrounding waters, and "as an American would also probably say, 'to the occasion.'" . . . The aquatic procession "was composed principally of steam-boats. They were steering towards the village of the Lazaretto, and their decks exhibited solid masses of human heads. . . . Our boat reached the wharf of the Lazaretto, a few minutes after the procession." . . . "I found myself in the midst of an orderly, grave, well-dressed, but certainly exulting crowd [on the steam-boat intended to receive Lafayette]." The first question was to ascertain the present residence of the 'General' as I found he was universally called, as it were par excellence. They pointed out a modest

dwelling, embowered in trees, which might claim to be something between an unpretending villa and a large farm-house. It was the residence of the Vice-President of the United States. . . . Here La Fayette had passed the day after his arrival, the sabbath"—The General approached the boat escorted by a committee of the city authorities, and attended by the Vice-President. The latter, a man of rather pleasing exterior, took leave of him on the wharf"—There is no further allusion to Staten Island in the remainder of this work, which was brought to our attention by Mr. Loring McMillan.

Records of Meetings

CONDENSED REPORT OF INSTITUTE MEETINGS

Saturday, October 17, 1931.—Dr. David Varon spoke on the "Architecture of Democracy," illustrated by sketches made before the audience. Nineteen relics from the British fort at Richmond, given by Mr. W. Leslie Conner, were exhibited.

Saturday, November 21, 1931.—Dr. James P. Chapin delivered an address, illustrated by lantern slides, entitled "My Third Visit to the Congo," which attracted and delighted a large audience.

Saturday, December 19, 1931.—Mr. Charles Brook spoke on "Little Old New York" with lantern slide illustrations. This meeting was held jointly with the Staten Island Historical Society. Mr. Wm. T. Davis exhibited the original land grant, on parchment, to William Douglass in 1685, of land near the present Rossville; also a photostat of the record of a judgment in 1688 against Christopher Billopp.

Saturday, January 16, 1932.—Mr. Howard Brenton MacDonald, under the title "The Viking Empire," described, with lantern slide illustrations, Iceland, Nova Zembla, Norway, Sweden, and Denmark.

Saturday, February 20, 1932.—Mr. Junius Bird, spoke of a "Summer Cruise in Alaskan Waters," with illustration by still and motion pictures, loaned by Mr. McCracken, the leader of the expedition in Capt. Bob Bartlett's schooner Morrissey. Other matters presented included a mastodon's tooth dredged near Cape May, N. J., and a collection of Staten Island drift fossils, the latter presented by Dr. Arthur Hollick.

Saturday, March 19, 1932.—Mr. Joseph F. Burke, Capt. Thos. I. Miller, and Mr. John M. Sheridan, as a committee, presented an Exhibition of Microscopic Objects. The exhibitors, besides the members of the committee, were Messrs. B. R. Abbott, George E. Ashby, Irving Banner, Wm. T. Davis, Mabon Kingsley, Charles W. Leng, Everett C. Lerch, Edward Lucey, Wesley E. McArdell, Mrs. Agnes Vinton Miller, George H. Needham, Hans L. Stecher, Dr. Frank A. Strauss, Dr. Wm. H. Wiegmann, George B. Wilmott. At this meeting, Mr. Carol Stryker, for the Woodcraft League, presented a mounted specimen of the Common Skunk (*Mephitis mephitis*).

Saturday, April 16, 1932.—Mr. Harry C. Raven spoke on "Gorillas and Chimpanzees," with illustration by still and motion pictures.

Saturday, May 21, 1932.—Annual Meeting, with reports of the Board of Trustees, the Woman's Auxiliary, and re-election of the following trustees, viz.: Howard R. Bayne, William T. Davis, John Rader, Edward M. Stothers, George W. Tuttle, Carl F. Grieshaber, Mrs. John B. Handley-Greaves. The program, following the business meeting, was an address by Mr. Howard Henderson Cleaves, illustrated by still

and motion pictures, principally taken by himself, entitled "Recent Trophies of the Lens."

SEMI-CENTENNIAL MEETING

On November 12, 1931, a special meeting of the Institute was held to celebrate the 50th anniversary of the meeting of November 12, 1881, at which the Natural Science Association of Staten Island was founded.

An afternoon session under the direction of the Woman's Auxiliary, Mrs. John B. Handley-Greaves, president, opened the proceedings. Of the surviving founders three were present in person, viz: Mr. Wm. T. Davis, Dr. Arthur Hollick, and Mr. C. W. Leng. Dr. N. L. Britton and Mr. Edward C. Delavan were unable to attend. At this session and the subsequent evening meeting a history of the Institute, with lists of members, was distributed.

At 6 P. M. the Board of Trustees entertained the surviving founders, and representatives of the other museums of New York and Brooklyn, at a dinner in the Staten Island Club under the direction of Dr. James P. Chapin. A birthday cake, contributed by Mrs. Leng, rested in front of Mr. Davis.

The evening meeting was held in the auditorium, which was decorated with chrysanthemums by members of the Horticultural Society, and golden emblems by Mrs. A. W. Hoffmeyer. Mr. Davis opened the meeting by the exhibition of the original call for the meeting of November 12, 1881, the address of Walter Craig Kerr on the 25th anniversary meeting, the silver trowel with which the corner-stone of the present building was laid on October 20, 1917, and a photograph of the home of John C. Thompson in which the original meeting was held, closing with an expression of his hope that the Institute might continue to grow until separate buildings, under its management, served future developments in art, science, history, and children's activities.

Mr. Davis then introduced Mr. Cornelius G. Kolff, as chairman of the semi-centennial meeting, who introduced the speakers, viz: Dr. Arthur Hollick and Mr. Leng, for the founders; Dr. Chapin, for the Board of Trustees; Mr. Howard Henderson Cleaves, for the Staten Island Bird Club; Mr. Carol Stryker, for the Woodcraft League; Mrs. Hoffmeyer, for the Woman's Auxiliary; Mr. Charles A. Ingalls, treasurer since 1908; and Miss Agnes Lyman Pollard, senior member of the museum staff.

Mr. Kolff, after commenting on the many other departments, sections, and successful societies in operation under the museum roof, and especially of the museum zoo under the direction of Mr. Hans L. Stecher, called upon the guests of the evening.

Dr. E. D. Merrill, of the New York Botanical Garden; Dr. C. Stuart Gager, of the Brooklyn Botanic Garden; and Mr. Alexander J. Wall, of

the New York Historical Society, made congratulatory addresses. That of Dr. Gager was subsequently printed in the "New York Times." Accounts of the meeting appeared in several newspapers, especially one in the "Herald-Tribune," written by Miss Mabel Abbott.

Congratulations were also received from Mr. W. M. Faunce, of the American Museum of Natural History; Mr. J. P. Marvel, of the Brooklyn Institute of Arts and Sciences; Mr. Ned J. Burns, of the Museum of the City of New York; who were present at the dinner; Dr. W. J. Holland, of the Carnegie Museum; Dr. A. C. Flick, state historian; Mr. A. J. F. Van Lear, state archivist; Mr. Henry W. Kent, of the Metropolitan Museum of Art; Mr. Charles A. Philhower, supervising principal, Westfield, N. J.; Hon. John A. Lynch, president Borough of Richmond; Hon. Charles W. Berry, comptroller City of New York; Mrs. William G. Willcox, and many other friends of the Institute.

The meeting closed with the announcement of the establishment of a Natural Science Fund by Mr. Wm. T. Davis, as a permanent endowment in the custody of the City Bank Farmers Trust Company, and of the contributions thereto of Dr. N. L. Britton, Miss Alice H. Erskine, Miss Emilie O. Long, Mrs. Jeannette L. Nichol, and Mr. Ernest Shoemaker. The particulars of this fund were also announced in the Bulletin, viz:

NATURAL SCIENCE FUND

Mr. William T. Davis has established by the gift of two thousand dollars a fund in the custody of the City Bank Farmers Trust Company to be known as the Natural Science Fund of the Staten Island Institute of Arts and Sciences. Under the terms of the trust, the income of this fund, and of any additions thereto, testamentary or otherwise, will be paid to the trustees to be used exclusively for natural science purposes; but no part of the principal can be withdrawn from the Trust Company without a certificate to the effect that twenty of the trustees have authorized such payment over their own signatures, after such payment has been discussed and approved at a regular meeting of the Institute. The careful administration of this fund is thus assured.

MEETINGS OF SECTIONS

SECTION OF HISTORICAL RESEARCH

George W. Tuttle, chairman.

December 19, 1931.—A joint meeting with the Staten Island Historical Society heard Mr. Charles Brook speak on "Little Old New York" with lantern slide illustrations.

Other historical lectures were given by members of the section and of the museum staff were given by Mr. Wm. T. Davis on May 23, 1931, at Emerson Hill, on "Emerson and Thoreau"; by Mr. A. W. Callisen on April 1, 1932, at the Stillwell-Perine House, on "The First White House";

by Miss Mabel Abbott on the same occasion on "Literary People of Staten Island"; and by Mr. Carol Stryker on April 19, 1932, at the meeting of the Deems Literary Society on "Staten Island Indians." The usual lectures for children on Washington, Lincoln, Thanksgiving, Staten Island History, &c., were also given.

The George Washington Bicentennial Commission of 1932 occupied the attention of members of the section. Mr. and Mrs. T. Livingstone Kennedy were appointed a committee of the Board of Trustees and participated in the pageant at the Stillwell-Perine House on February 22; in the Woman's Auxiliary meeting on February 25, when Mrs. W. H. Pouch delivered an address, illustrated by motion pictures; in the dedication of a memorial arch in the Church of the Huguenots on May 22; and in the D. A. R. events which included the planting of thirteen memorial trees at the Conference House.

Mrs. William G. Willcox and Mrs. Kennedy were joint chairmen of a committee which arranged a Colonial Exhibit opening on May 24, 1932, and remaining during the summer. It was a notable collection, artistically arranged, and included a variety of articles of the period of Washington's life time, contributed by the following: Miss E. Alice Austen, Miss Rosalie Baldwin, Hon. Howard R. Bayne, Mrs. John Henry Boesch, Mr. Daniel L. Bridgman, Miss Harriet L. Britton, Mr. Walter L. Bush, Mr. A. W. Callisen, Mrs. Appleton L. Clark, Mrs. Harriet Seguire Clark, Mrs. James Guyon Clark, Miss S. Gertrude Clark, Mrs. George W. Cole, Mrs. W. W. Cornell, Mr. Henry Corsen, Mrs. E. N. Crocheron, Miss Ida Dudley Dale, Miss Alice Daley, Mr. Wm. T. Davis, Mrs. H. F. Denyse, Miss Florence A. Falk, Mrs. William L. Flake, Miss M. D. Golder, Mrs. Lynn Halbert, Mrs. E. A. Hook, Mrs. William F. Hunt, Mrs. C. H. Kidwell, Miss Anna M. King, Mrs. T. Livingstone Kennedy, Mr. Cornelius G. Kolff, Miss Eliza Lake, Miss Alice Lawrence, Mrs. Homer E. Marshall, Mrs. G. H. Martorell, Mrs. W. H. Mersereau, Mrs. J. J. Meschenmoser, Mr. Maurice D. O'Keefe, Mrs. A. B. Pouch, Mr. Philip Sandbuhler, Mrs. Juliet Benham Seaman, Mrs. Percy Shaw, Mrs. DeWitt C. Snyder, Mrs. Charles G. Stiles, Mrs. G. Taber, Miss Jeannette E. Thompson, Mrs. David Tysen, Mrs. O. C. Wigand, Mrs. Sophia Banker White, Mrs. William G. Willcox, Miss Laura B. Yetman.

Among the historical gifts and accessions were photographs of Staten Island made about thirty years ago by the late Eugene G. Putnam, 19 revolutionary relics from the late W. Leslie Conner, china from Mrs. W. J. Grimshaw, silverware from Mrs. Camille McSorley and the plate from which World War certificates were engraved by Captain Harry E. Gibbs.

On July 6, 1931, four volumes of "Staten Island and Its People," a new history of the Island by Charles W. Leng and William T. Davis was received as a gift from the publishers, Lewis Historical Publishing Company, by the hands of their agent on Staten Island, Mr. R. E. Roberts. It has been in daily use since that date.

SECTION OF NATURAL SCIENCE

Charles W. Leng, chairman.

The members of this section, besides their cooperation in the meetings of the Bird Club, the Nature Club, the Attic Club, and the Woodcraft League, have individually accomplished results of importance.

Mr. William T. Davis returned July 21, 1931, from a journey through Colorado, Utah, California, Texas, and Alabama, devoted in great part to studies in Cicadidæ, and resulting in the discovery of *Okanagodes gracilis*, var. *pallida*, as published in Journal New York Entomological Society, XL, pages 241-264, with other new species and varieties. He described his journey on August 1, at a meeting in the Stillwell-Perine House, arranged by Mr. Cornelius G. Kolff.

Dr. James P. Chapin returned May 28, 1931, from a ten months' sojourn in the Congo region, and gave an account at the November meeting of the Institute of his "Third Visit to the Congo." The scientific results of his African travels, covering about eight years in all, will ultimately be published as a monograph on African birds.

Dr. Arthur Hollick contributed to the semi-centennial meeting of November 12, 1931, the collection of Triassic Fossils of Staten Island which formed the subject of his contribution to the Proceedings, VI, pages 5-24, November 25, 1931, including the new species *Gellera paradoxia*.

Mr. Charles W. Leng completed on February 10, 1932, in conjunction with Mr. Andrew J. Mutchler, of the American Museum of Natural History, the second supplement to the Catalogue of Coleoptera, north of Mexico, to be published by John D. Sherman, Jr. The studies of Mr. Leng and Mr. Mutchler on the Cerambycid Beetles of Porto Rico have assisted in the publication in the Proceedings of the United States National Museum, LXXX, art. 22, pages 1-93, 1932, of a comprehensive article on "New West Indian Cerambycid Beetles," by W. S. Fisher, in which the new genus *Brittonella* is dedicated to Dr. N. L. Britton. A further and greater recognition of Dr. Britton's scientific services in Porto Rico is evidenced in the following resolution of the Committee on the Mineral Resources of Porto Rico.

GOVERNMENT HOUSE

PORTO-RICO

April 15, 1932.

Resolution

This is the last of the Committee's spring meetings at which Dr. Britton will be present, and it is fitting that we turn a moment from routine business to voice our sentiments concerning his departure and the part he has played in our work.

With characteristic modesty he has disclaimed the possession of specialized knowledge to contribute to the Committee's deliberations; but

we have found his familiarity with the mineral resources of Porto Rico and with the peculiar problems their exploitation presents uncannily accurate and keenly penetrative. And he has combined with this knowledge a savoir faire that has clarified and expedited the difficult tasks with which the Committee was faced. He has injected the system and order of science into the chaotic mass of fact and fiction with which we were confronted at the inception of our work; he has been the inobtrusive guide in the progress we have made.

For many years Dr. Britton, as Chairman of the Committee directing the Scientific Survey of Porto Rico and the Virgin Islands, has guided and inspired the vast amount of research in the natural sciences for which Porto Rico is becoming noted. He himself has made not only fundamental contributions in the field of botany, but has had a direct hand in making discoveries of the first importance in geology, paleontology, and zoology. During his quarter century of untiring and disinterested service to the island he has sometimes stepped outside the realm of pure science, to take a significant part in the applications of science. Thus far agriculture has benefited most from these departures, but this Committee has also been fortunate. We have reaped the benefits of his ripe judgment and wisdom in another field—the wresting of useful commodities, not from the soils, but from the earth itself.

To say that we regret his going would be but a feeble statement of what each one of us feels. We prize his promise to serve us in an advisory capacity, and we will avail ourselves of this treasured opportunity. But he must be more than an advisor.

This Committee cannot, therefore, approve Dr. Britton's withdrawal from its membership; the most it can consent to do is to grant him temporary leave of absence, and that on one condition only:

That he accept the Honorary Chairmanship of the Committee.

Dr. Britton, you have been elected to this office by vote of the entire Committee. We reconcile ourselves to your departure only in the knowledge that you will continue to be the guiding spirit in our labors.

Guillermo Esteves	Manuel V. Domenech	} Committee on Mineral Resources of Porto Rico
Ramon Gandia Cordova	Howard A. Meyerhoff	
W. D. Noble	James R. Gresham	
L. Sanchez Morales		

Mr. Joseph F. Burke, assisted by Mr. Hans L. Stecher and Mr. Harrison Johnson, has undertaken the sorting and arranging of the scientific books and pamphlets of which the Institute has an important accumulation. In conjunction with Captain Thomas I. Miller and Mr. John M. Sheridan, he has also provided for the Institute meeting of March 19 an exhibit of microscopic objects, as well as making additions and corrections to the collection of minerals.

Mr. Hans L. Stecher, with the support of Mr. Harold J. O'Connell, as the personal employee of Mr. Wm. T. Davis, has enlarged the museum zoo, which under his care, has become a principal attraction for children and adults. During his absence in July and August, when he will be councillor in natural science at Northrop Memorial Camp, Mr. Davis has arranged for Mrs. P. A. Bonney to continue his work.

Among the museum accessions during the year in the department of natural science are a mounted skunk (*Mephitis mephitica*) in Connecticut, the gift of the Woodcraft League, a number of snakes, the gift of Mr. Harold J. O'Connell, and a young opossum, the gift of Mr. Chris Schmitt, interesting as indicating that the animal still breeds on Staten Island. The deposit of the Gilbert C. Wood collection of Beetles should also be mentioned, though not yet an accession. Items of special interest were also developed when on April 20, 1932, Mr. Howard Cleaves, Dr. James P. Chapin, Mr. Everett C. Lerch, and Mr. Davis observed the nuptial performance of the resident male woodcock; and in reports that reached the museum of weasels, of Japanese beetles, Mexican Bean beetles, of Willow Leaf beetles, as pests.

Lectures during the year on natural science subjects for adults were given by the Institute, the Woman's Auxiliary, the Horticultural Society, and the Bird Club, as indicated in their reports; and for children at the museum, at schools, and elsewhere by Messrs. Leng, Stryker, and Beil. Identifications were made of many animals, plants, and minerals for individual visitors; and much information on natural science topics was furnished to the press.

SECTION OF ART

Robert Waterman Gardner, Honorary Curator.
Mrs. F. Winthrop White, chairman Art Loan Committee.
Agnes C. Nash, Museum Assistant in Art.

A succession of exhibits in the art gallery, arranged by the Art Loan Committee, included the work of Staten Island Architects, opened on June 2, 1931, with an address by A. T. North; the work of Louise Cammann, opened by a reception on September 21; the work of Staten Island Painters and Sculptors, opening on October 28; the Yule Tide Exhibit on December 7; an exhibit of Etchings on February 1, 1932; Modern Art in March; and the work of William Hurd Lawrence on April 2. Exhibits were also made of the work of the pupils in the museum drawing classes conducted by Miss Nash; of the work by children eight years of age and under in the Livingston School; of the posters designed under the direction of Miss Frances Gessner for the Cent of Books; of the work of the art classes in P. S. 16, 17, 18, 21, 23, directed by Miss Charlotte Livingston; and of the small sculptures in white soap made in the museum and elsewhere, under the direction of Miss Hilda Hayward and Miss Nash. There were also ex-

hibits of old silver and of old china in the central art case under the direction of Miss Pollard.

The classes in drawing were resumed on September 5, 1931, and were so largely attended that Miss Nash was glad to avail herself of the assistance of one of her most promising pupils, Miss Nancy Phillips. Classes in soap sculpture were conducted from December to March; several of the pupils were among the prize winners in the national competition.

The Institute is a member of the American Federation of Arts and has been represented by Miss Nash at its annual convention.

Among the Staten Island artists and sculptors whose work has been exhibited during the year were Mr. and Mrs. O. C. Wigand, Miss Caroline C. Mase, Mrs. F. Winthrop White, Mrs. Homer E. Marshall, Frederick Marshall, Mr. and Mrs. Ernest Beaumont, Mrs. Elsa Knauth, Edna Lawrence, Dr. David Varon, W. Irving Lewis, Louise Cameron, Agnes C. Nash, Muriel Mattocks Cleaves, Fernando Fingado, Richard Kroth, Edward M. Law, William Hurd Lawrence, Josephine Dockray, Harriet Kaucher, Marie Gore Shanks, Mrs. Bowman Lloyd, Carl Bertsch, Arthur Beaumont, Marjorie Beaumont, Joseph Sablowski, M. White Bishop, Walter G. Mattern, Mrs. W. R. F. Adams, Albert E. Self Adams, Eleanor Fichtmuller, Frances Gessner, Dolly Goodwin, M. Hefti, Harry Kovnat, Joseph Latham, Edward C. Locke, Mrs. Harriet Poutasse, Grant Rapp, Armen E. Darsen, Frank Law, Pietro Ghiloni, Emily Jewell; and the following architects: James A. Whitford, M. G. Uslan, Michael Diamond, W. Newport, O. A. Madsen, Kenneth W. Milne, Arthur M. Arrington, Henry G. Otto, Sibley & Fetherston, C. F. Grieshaber, Harry Pelcher, Chester A. Cole.

SECTION OF BELLES LETTRES

Mrs. Edward D. Gunnell, president; Miss Alice Lawrence, secretary.

The meetings of this section have often been held on Sunday afternoons at the homes of its members, but have been held also during the past year as follows:

May 23, 1931.—On Emerson Hill as guests of Mr. Cornelius G. Kolff; Mr. A. W. Callisen read his rendition of a Staten Island legend, "An Errand of Mercy." This meeting was held jointly with the Historical Society and, as noted above, was also the occasion of Mr. Davis' account of Emerson and Thoreau.

May 24, 1931.—Annual meeting at the home of Mr. and Mrs. Edward D. Gunnell. A musical program was presented by Marcella Geon, M. Levis, Maud Morgan, William Sunderman and Kay MacCrae.

October 25, 1931.—At the residence of Miss Maud Morgan in Pleasant Plains. Miss Katherine Grey made a report on current drama, Mr. David Grove spoke on musical events, Mr. A. W. Callisen and Miss Virginia Crossen read original poems. Mrs. Gunnell reported on Pearl

uck's "The Good Earth." Mrs. David Grimes described her eastern trip, including Egypt. Miss Morgan spoke of the development of the harp, and played a number of Welsh melodies on that instrument.

November 29, 1931.—At the residence of Mr. and Mrs. Harry Kuhn in Brighton Heights. After reviews by Miss Grey and Mr. Roswell S. Coles, and a report on the new Whitney Museum by Miss Josephine Dockray, Mr. A. W. Callisen read a paper on "Reminiscences and Estimate of Oscar Wilde" with readings from his poems by Miss Grey.

January 13, 20, and 27, 1932.—At the Public Museum. Mr. Callisen in these evenings recited his translation of Goethe's "Faust," with Miss Marjorie Sunderman supplementing his lecture by selections from Gounod's opera, and William Sunderman and Kay MacCrae assisting by vocal solos, and Charles Kennedy, violin.

January 24, 1932.—At the residence of Mr. Cornelius G. Kolff, Harbor View Place. After review by Mr. Willard Grimes of "Mr. and Mrs. Pennington," Mrs. A. W. Callisen read a paper on "The Origin of Morris Dances," with a special illustrative musical program by Mr. David Grove.

February 27, 1932.—Annual dinner held in the Woman's Club. An original program of entertainment was provided.

March 20, 1932.—At the studio of Mr. David Grove. An all Irish program under the direction of Mr. Lester L. Callan was presented.

April 24, 1932.—Joint meeting with the Historical Society in the Stillwell-Perine House. Miss Mabel Abbott read a paper on "Island Writers, Past and Present." Mr. Callisen presented an interesting account of the "First White House" on Cherry Street, New York.

May 22, 1932.—At the "Crow's Nest," Shore Acres.—Officers were elected for the following year, viz: Harry Kuhn, president; Mrs. David Grimes, vice-president; Miss Mabel Abbott, secretary; Mr. Roswell S. Coles, treasurer.

WOMEN'S AUXILIARY

Mrs. John B. Handley-Greaves, president; Mrs. Charles L. Schaeffer, recording secretary; Mrs. Harry F. Towle, Mrs. Hermann Lindheimer, Mrs. Anton W. Hoffmeyer, vice-presidents; Mrs. George W. Batz, treasurer; Mrs. Willard Grimes, corresponding secretary.

Meetings were held as follows:

May 27, 1931.—Annual meeting for election of officers.

October 28, 1931.—Reception and private view of loan exhibit by Staten Island Artists. Women's Clubs from all boroughs of New York, also from New Rochelle, Scarsdale and Flushing, were represented, Mrs. Henry Willis Phelps, president of the New York City Federation of Women's Clubs, being the guest of honor.

November 12, 1931.—Reception to the founders of the Natural Science Association of Staten Island at the semi-centennial meeting.

December 7, 1931.—Reception to the artists participating in the Yule tide exhibit.

December 16, 1931.—Christmas musical program by Mrs. Elsie Pulker, Mrs. Grace Hughes, Mrs. Lelah Koval Chapin, with motion pictures of Eskimo and Fiji Fishing arranged by Mr. Morris A. Lunn.

January 27, 1932.—Mrs. Cecil Grimes described her journey to "Egypt and Adjacent Lands."

February 25, 1932.—Bicentennial Meeting. Mrs. W. H. Pouch described the career of George Washington, with illustration by motion pictures, and was presented with a memorial gavel. The Daughters of the American Revolution participated in this meeting.

March 30, 1932.—Mrs. Harry F. Towle spoke on "My Trip to Mexico," with illustration by photographs.

April 2, 1932.—Reception to William Hurd Lawrence, and opening of an exhibit of his paintings.

April 26, 1932.—Annual Luncheon, under the management of Mrs. Anton W. Hoffmeyer. Miss Maud Morgan rendered several selections on the harp and spoke, all too briefly, of her long career. Mme. Regina Jais was the guest speaker, her topic being "Yesterday, Today, and Tomorrow."

May 25, 1932.—Annual Meeting with motion pictures of "India."

The cultural developments fostered by women, besides the meetings mentioned above, have been evidenced by the quarterly meetings of the Leaders' Conference, of which Mrs. Greaves is chairman, leading to a projected Botanic Garden; the monthly meetings of the United Parents Association, of which Mrs. Edward D. Gurnell is chairman, leading to the Pageant of Books and Poster Exhibit; and the occasional meetings of the D. A. R. chapters, and other women's organizations, which have been held in the museum during the year.

HOSPITALITY COMMITTEES

The custom of closing the various meetings with light refreshments, and a social gathering of members and visitors, has been continued. We are indebted to Mrs. H. A. Witte, chairman of the Institute Committee, and Mrs. A. A. Rottmann, chairman of the Auxiliary Committee, and to Mrs. A. W. Hoffmeyer, Mrs. Leonal W. Hoffmeyer, Mrs. Charles W. Long, Mrs. Miriam Campbell Stryker, Miss Agnes L. Pollard, Mrs. Ernest Beaumont, and Mrs. M. A. Seery members of their committees for long continued service in this matter.

WOODCRAFT LEAGUE

Carol Stryker, head guide and ranger for Staten Island.

The meetings of the We-Kon-Ton-ka (adult) tribe were resumed on September 23, 1931, and were continued until July, 1932.

The meetings of the junior tribes were resumed on September 15, 1931, and continued as follows:

Tuesdays at 3:30 P. M.—Thunder Bird tribe, for boys under 12 years of age, directed by Mr. Stryker, assisted by Milton Horn until February, 1932, then by Fred Koch.

Tuesdays at 3:30 P. M.—Luna tribe, for girls under 12 years of age, directed by Miss Marion Olwig, assisted by Adele Siegel until March, 1932, then by Delene Ellis.

Thursdays at 3:30 P. M.—Hin-Han-Kaga tribe, for boys over 12 years of age, directed by Mr. Stryker, assisted by Milton Horn.

Fridays at 3:30 P. M.—Hin-Han-Wasta tribe, for girls over 12 years of age, directed by Mrs. Miriam Campbell Stryker, assisted by Irma Thompson.

First and third Saturday of each month, special instruction to junior members working for honors by Miss Marion Olwig.

Second Saturday of each month, Mr. Lester Thomas met older members seeking instruction.

Third Saturday of each month, outdoor meeting for boys and girls under 12, directed by Mr. and Mrs. Stryker.

Fourth Saturday of each month, outdoor meeting for boys and girls under 12, directed by Mr. and Mrs. Stryker.

The distance from the museum led in 1930 to the formation of a club in Tottenville, which continues under the direction of Mrs. Stryker. In Westerleigh the Watuka tribe has been organized in 1930 under the direction of Mr. Thomas, assisted by Ruth Winsor; held a special meeting on March 11, 1932. Other tribes are in process of organization at Dongan Hills, and in West New Brighton. Among the special Woodcraft events have been participation in the Inference House Pageant on September 11, 1931; in the Visual Instruction Exhibit at the American Museum of Natural History on September 19, 1931; in the Huguenot Pageant on November 15, 1931; in the Nature Study Fair at the American Museum of Natural History on December 3, 1931; in the Bicentennial Pageant at the Stillwell-Inference House on February 22, 1932; and in the Pageant of Books on March 11, 1932. Other events were the motion pictures of Indian Hunt-

shown on December 30, 1931, through the courtesy of Mr. Reuben Winsor; the Indian Supper on February 19, 1932, at the home of Mr. and Mrs. Crandall, prepared by Mr. Thomas and Mrs. Stryker; the presentation to the museum of a mounted specimen of *Mephitis mephitis* on March 19, 1932; the Pageant of April 2, 1932, at the Union Parish House, directed by Mrs. Stryker, with the principal parts performed by Miss Emilia Joan Schneider and Mr. Paul Kuhn; and the Pine Barren Trip of April 30, 1932, in which Mr. and Mrs. Stryker, Mr. and Mrs. Thomas, Paul Kuhn, Carlton Beil, and Elwood Logan, accompanied by Mrs. Edna E. Snow, Miss Ivy Taylor, Miss Adele Siegel, Miss Emilie O. Long, director of the Northrop Memorial Camp, and many biology teachers and students including Mrs. Jeanette L. Nichol, Miss Gladys Hotaling, Miss Claire Smith, Miss Grace L. Currier, Miss Blanche Currier, Miss Marion Olwig, and Miss Arline Cor-

The season ended as usual in outdoor suppers on May 29 and June 29, in an overnight camp for the juniors, and in the Annual Grand Council on June 16, 1932, in the museum, at which the rank of Pathfinder was conferred upon Ruth Winsor, Arden Crandall, and Dorothy Afferton; that of woodman on Edna Peterson, Doris Robillard, Betsy Rice, and Margaret Soriano; of water bearer on Edyth Rayner, Janet Benson and Jean Stewart; and of fire keeper on Thelma Matthews. Canio Di Cairano, of the Lenape tribe, and Paul Kuhn, who has faithfully represented the Staten Island Indian at a multitude of pageants, performed the Eagle Dance.

During the summer of 1932 the following members will act as camp councillors, viz: Miss Adeline Regene, Miss Eleanor Brinley, Miss Irma Thompson, Mr. Walter Yedland, Mr. Milton Horn, and Mr. and Mrs. Lester S. Thomas.

STAMP CLUB

On Monday afternoons at 4 P. M., there is a meeting of young philatelists, directed by Mrs. P. A. Bonney, assisted by Frank Becker, and visited occasionally by Miss Anna M. King, Dr. Sydney Carney, and other devotees of stamp collecting. The geography, history, and government of the countries involved are studied; the natural history of each as indicated by the engravings on the stamps is not neglected. In connection with the Bicentennial Celebration Mr. B. F. Williamson prepared for the club a collection of the Bicentennial issue, with the portraits, selected from his large collection of prints, from which the engravings used in this issue were made.

NATURE CLUB

Miriam Campbell Stryker, president; Hans L. Stecher, secretary.

The proceedings of this club are recorded in detail on a preceding page.

ATTIC CLUB

The natural history collections of Mr. William T. Davis, and a portion of his library, being housed in the attic of the museum has led to his spending much of his time there in the evening as well as during the day. This in turn has resulted in visits from those desiring to consult the collections or the books, and eventually in a few other collections, as the minerals of Mr. Joseph F. Burke, the mosses of Dr. Abel J. Grout, the nature photographs of Mr. Howard H. Cleaves, the aquaria of Mr. Hans L. Stecher, the entomological collections of Mr. Everett C. Lerch, &c., being also housed there. Through the labors of Mr. Burke and others, the technical library of the Institute has been in part also added to the attic stock of information; and the newspaper files, electrotypes, and other material used in preparing the history of the Island has also been accommodated. With such facilities for re-

search, and impartment of information to kindred spirits, Dr. Frank A. Strauss, Dr. James P. Chapin, Mr. John Sheridan, Mr. and Mrs. George B. Wilmott, Captain and Mrs. Thomas I. Miller have become frequent visitors, adding chemistry, microscopy and physics to the sciences represented in the Attic Club.

EDUCATIONAL PROGRAM

Through the assistance of the Carnegie Corporation and that of Mr. William T. Davis, who has provided the services of Mr. Hans L. Stecher, and of the Women's Auxiliary, which has continued to supply the materials for our classes in Art, our educational program has been expanded. As presented on September 18, 1931, before 1400 teachers assembled in the American Museum of Natural History, by the Board of Education, our program of visual instruction now includes:

1. Exhibits of Staten Island Geology, Botany, Zoology, and of Staten Island History, including Indian and Colonial Relics. To each of these additions have been made during the year; the Museum Zoo, showing living animals and plants, has been notably increased in size and interest.

2. Loan exhibits of pictures and other works of art; and five flower shows; culminating in May, 1932, in the Colonial Exhibit of the Bicentennial Committee.

3. Reference Library of Books and Pamphlets relating to the subjects covered by our exhibits. Annual additions are obtained by exchange for our publications, by gifts, and by purchase of books on natural science from the income of the John J. Crooke Fund, the gift of Dr. and Mrs. N. L. Britton. During the past year the volunteer labors of Mr. Joseph F. Burke, assisted by members of the Staff, have been of lasting value in sorting and arranging our accumulations.

4. Docent and Lecture Service by which the exhibits and library are understandingly presented to visitors, adult and juvenile. The regular program of Woodcraft meetings with their Tottenville extension, of classes in drawing and sculpture, of Friday afternoon lectures, and of outdoor walks on Saturdays, has been continued. Additional lectures in the museum and elsewhere have been given on request, also talks on the exhibits to visiting classes, to such an extent that the attendance has increased since 1929 by about 25%, while the number of schools, &c., to which service has been rendered has been nearly doubled. They include Curtis High School, P. S. 6, 11, 12, 14, 15, 16, 17, 20, 22, 30, 32, 39, 40, 44, 48, and 231, Staten Island Academy, St. Peter's High School, St. Joseph Hill Academy, Livingston, Willard-Mundorf, Teachers' College and Hunter College.

Passing beyond the features of our program, primarily designed for children, the meetings of the Nature Club, the Attic Club, the Stamp Club, the Institute, and its various sections and affiliated societies, afford opportunities for educational intercourse, of which advantage

has been taken by a large portion of our members, as indicated by the number of participants in those meetings, and the reports thereof printed in our Proceedings.

AFFILIATED SOCIETIES

STATEN ISLAND BIRD CLUB

Howard Henderson Cleaves, president; William T. Davis, Mrs. H. M. Trench, Mrs. L. A. Dreyfus, Dr. Frank A. Strauss, vice-presidents; Charles W. Leng, secretary-treasurer; Carol Stryker, field-secretary.

The activities of this club, founded in 1914 with Mr. Cleaves as one of its first and most active members, have continued to consist of monthly walks for the study of birds and natural history in general, the maintenance of winter feeding stations for birds, the support of the National Association of Audubon Societies, and lectures, &c., for the spreading of information. At the annual meeting on May 25, 1932, a symposium on "Hawks and Owls," led by Mr. Stryker, afforded an opportunity for Mr. Warren F. Eaton, of the Linnean Society, to present the facts in regard to these maligned birds. Mr. Stryker has also spoken on birds to the children attending museum lectures on October 9, 1931, and on April 8, 1932, and in January, 1932, at the meeting of the Brooklyn Bird Club.

The Christmas Bird Census, taken on December 27, 1931, by Mr. Cleaves, Dr. James P. Chapin, Mr. Harold K. Decker, Captain Thomas I. Miller, Mr. Marc R. Rich, and Mr. Stryker, enumerated 47 species, and 2217 individual birds.

Mr. Harold K. Decker has interested himself in the preservation of the Audubon residence in Manhattan, in which he has had some measure of success.

Mrs. L. A. Dreyfus, at the annual meeting, spoke in favor of establishing bird houses in the Boy Scout camp at New Dorp, which, with the cooperation of the Scout executive and the field-secretary, may be accomplished.

During the year a number of special trips for intensive bird study have been made by members of the club, leading to the establishment of Oakwood Beach as a good locality for the study of shore birds; and, in another instance, on April 20, 1932, to an excellent opportunity of watching the buzzing of the woodcock.

HORTICULTURAL SOCIETY OF STATEN ISLAND

Fred S. Heal, president; Frank P. Baumann, secretary.

Besides its quarterly and annual business meetings, this society held open meetings on April 9, 1932, at which Dr. George M. Reed, of the Brooklyn Botanic Garden, spoke on "The Gardens of Japan"; and on May 11, 1932, at which "Wild Flowers of Staten Island" were shown by William T. Davis, and by Mr. and Mrs. Carol Stryker. Both lec-

ures were illustrated by colored lantern slides, Mr. Davis showing also specimens from his herbarium.

Five flower shows, each lasting for three days, were given: August 5-17, 1931.—Gladiolus, Herbert H. Backofen, manager. September 5-28, 1931.—Dahlia, John Rader, manager. October 31-November 2, 1931.—Chrysanthemum, F. P. Baumann, manager. June 4-6, 1932.—Roses, Fred A. Holder-Egger, manager. June 11-13, 1932.—Rose, Mrs. Homer E. Marshall, manager. Prizes were awarded for the best flowers, the judges being Dr. Forman T. McLean for Gladiolus, Mr. W. H. Waite for Dahlia, Mr. T. A. Weston for Chrysanthemum, and Mr. Kenneth R. Boynton for Roses.

Among the exhibitors who have assisted the managers in making these flower shows successful were H. H. Burrucke, Mrs. Walter Booth, R. C. Benedict, Bergen Gardens, Mrs. Wm. Birmingham, R. G. Bryant, Arthur Cavenagh, R. S. Cox, Joel A. Cooley, Frank S. Cooke, Mrs. Fred H. Davidson, Mrs. L. A. Dreyfus, Mrs. Viola A. Fuller, Mr. and Mrs. C. F. Grieshaber, A. W. Holtz, Fred Harris, Harrison Johnson, Mrs. Oscar Loeffler, Mr. and Mrs. Morris A. Lunn, M. Lehn, J. F. MacDonald, B. Munro, A. J. Neumann, Mrs. Joseph Neumann, Hans Olsen, Mrs. W. H. Pott, George F. Rookey, Mrs. T. Stuart, Charles M. Steinrock, S. S. Theil, Totty Gardens, Mrs. F. C. Townsend, Mr. and Mrs. R. C. Wigand.

The officers of this section record with deep regret the death of Mr. Joel A. Cooley, who for many years had been a most helpful and esteemed member of the society.

LIST OF MEETINGS IN THE MUSEUM

MAY 1, 1931-APRIL 30, 1932

Institute, Trustees, and Executive Committee	16
Children's Friday Lectures and special lectures to classes	67
Drawing and Soap Sculpture classes	59
Camp Club	50
Woodcraft Meetings, including outdoor walks	207
Bird Club and Nature Club, including outdoor walks	24
Horticultural Society, including five flower shows	16
Women's Auxiliary, including receptions opening Art Loan Exhibits, Daughters of the American Revolution, &c.	24
Architectural Exhibit	1
Boy Scouts and Sea Scouts	14
Veterans of Foreign Wars, &c.	32
Musical and Dramatic Organizations	20
Engineers and Transit Commission	14
Miscellaneous School and Patriotic	17
Total in the museum	591

In addition 17 lectures were given at schools, &c., and 38 Woodcraft meetings were held in Tottenville.

Annual Reports

ANNUAL REPORT—BOARD OF TRUSTEES

MAY 21, 1932

The Board reports with gratification that the fiftieth year of the existence of this organization closes with every department of its activities exhibiting progress. The semi-centennial celebration of the organization held on November 12, 1931 was the occasion of a testimonial dinner to the surviving founders, managed by Dr. James P. Chapin, and of anniversary meetings afternoon and evening, directed respectively by the officers of the Woman's Auxiliary and Mr. Cornelius G. Kolff. Both meetings brought a large and enthusiastic attendance and many congratulations, ably expressed at the evening meeting by Dr. C. Stuart Gager, of the Brooklyn Botanic Garden, Dr. Elmer D. Merrill of the New York Botanical Garden, and Mr. Alexander J. Wall of the New York Historical Society. In addition to these distinguished representatives of sister societies there were representatives at the dinner of the American Museum of Natural History, the Brooklyn Institute of Arts and Sciences, and the Museum of the City of New York. Fortunately, notwithstanding the passage of fifty years, three of the founders, William T. Davis, Dr. Arthur Hollick, and Charles W. Leng were able to take part in the celebration; the other two, Dr. N. L. Britton and Mr. Edward C. Delavan, were present in spirit only.

A feature of the Semi-centennial meeting was the announcement of the foundation, by the generosity of our president, of a Natural Science Fund in the custody of the City Bank Farmers Trust Co., which now amounts to \$2,121, of which \$2,000 was the gift of Mr. Davis. With the previously established John J. Crooke Fund, the gift of Dr. and Mrs. N. L. Britton; the D. M. Van Name Fund, the gift of Mr. and Mrs. Charles A. Ingalls, and the Science and Education Life Membership Funds, the total of such funds, the income of which is applicable to certain specific purposes, is now \$8,054.46.

During the year we have also been the recipients of gifts from Dr. Britton, Mr. Davis, Mrs. Louis A. Dreyfus, Mrs. Anton W. Hoffmeyer, and others, aggregating more than \$1,200; we have received the fourth annual installment of the Carnegie Grant for educational purposes, \$840, and about \$600 in membership dues. The support of the City of New York, from which salaries, heat, light, etc., are provided, has been continued.

The Institute has thus gained added financial strength during the year; and has been able thereby to extend its service to the public. Through the operation of the Carnegie grant, eight illustrated lectures of educational character have been given, with unusually large atten-

dance, and additional lantern slides have been provided for lectures to school children, resulting in the establishment of increased contacts with schools. Through the same support the Woodcraft League meetings have been extended to Tottenville, and the publication in our Proceedings of Anthon's Notes, Nature Club Reports, Dr. Arthur Hollick's Triassic Fossils, Miss Mary Rathbun's description of *Linuparus kleinfelderi*, has been facilitated. For the first time our Proceedings have published descriptions of new Staten Island species.

Through the indefatigable labors of Mr. Hans L. Stecher, the Museum Zoo has been enlarged and has enlisted the sympathetic support of Mr. Harold J. O'Connell, Miss Gladys Hotaling, Miss Emilie O. Long, Mrs. Dagmar Johnson, and many others. It is one of the greatest attractions of our museum and appeals equally to adult and juvenile visitors.

We are singularly fortunate in the number of volunteer workers whose support assists each and every department of our activities. During the past year the department of books has made marked progress in its arrangement by Mr. Joseph F. Burke, who has devoted many hours almost daily to his self-imposed labors. The department of art has had the able assistance of Mrs. F. Winthrop White as chairman of the Art Loan Committee, with creditable monthly exhibits as a result, while the Woman's Auxiliary, under the presidency of Mrs. J. B. Handley-Greaves, has continued its support of Miss Nash's classes in Art. The success of Miss Nash as a teacher has been such that one of her pupils took a prize at the Wanamaker exhibit and another was competent to take her place during her brief illness.

The Staten Island Bird Club has for 18 years been the exponent, through its monthly walks afield, of outdoor natural history. Last Saturday between forty and fifty people followed Mr. Davis and Mr. Stryker across the meadows to Oakwood Beach, where they enjoyed the songs of the bobolink on the meadows, and the sight of flocks of sandpipers on the shore, besides about fifty species of birds, and other items of botanical or zoological interest.

The section of Belles Lettres during the past year presented three evenings devoted to Goethe's *Faust*, translated by Mr. A. W. Callisen, and accompanied by musical selections from Gounod's opera. It has also contributed to the Bi-centennial Celebration Mr. Callisen's scholarly account of the first White House at No. 3 Cherry St., and various essays at its meetings notably Miss Mabel Abbott's account of the Literary People of Staten Island.

Our work for children has been continued by the Woodcraft League, by lectures given regularly on Friday afternoons and to visiting classes on request, and by informal talks around the exhibition hall. It has been carried on under the general direction of Mr. Carol Stryker, assisted by Mr. Stecher, Mr. Beil, Mr. Lester Thomas, Mrs. Stryker, and

Miss Marion Olwig. Several of the young people who commenced as members of the Woodcraft League, henceforth to be known as Staten Island Museum Woodcraft, have become leaders in its meetings, among them Milton Horn, Irma Thompson, Fred Koch, Delene Ellis, and Adele Siegel. As in previous years some of these become camp councillors for the summer, or as in the case of Elwood Logan, as employee of the Museum of Natural History. Still other activities for children have been the Stamp Club, conducted by Mrs. P. A. Bonney with the assistance of Frank Becker, the outdoor walks led by Mr. and Mrs. Stryker, and the lectures at public schools, for which we have numerous requests.

These varied activities necessitate much manual labor in the arrangement of the auditorium for differing purposes, in operating the stereopticon, etc., which has been cheerfully and efficiently performed by Mr. Harrison Johnson.

The Board itself has gained by the election of Mr. Howard Henderson Cleaves to fill the vacancy caused by the lamented death of Mr. Tribus. Mr. Cleaves, who became a member of the Institute in 1905, has thus been identified with it for more than a quarter of a century. There has been no change in the officers of the Board, but on account of the temporary illness of Mr. Charles A. Ingalls, our faithful treasurer, Mr. Robert M. Leng, who has passed his examination by the State as Certified Public Accountant, was appointed assistant treasurer on December 19, 1931. The Board is pleased to report the election of sixteen new members of the Institute, four as life members, and the election of Mrs. Mary Otis Willcox as a patron. The staff remains unchanged, but has valuable assistance from Mr. Hans L. Stecher, whose services have been compensated by Mr. Davis, and from Mrs. P. A. Bonney.

The progress due to the increased financial support, the diligence of the members of our staff, and the volunteer aid they have received, is reflected in the careful records of the meetings, often 75 in a month, and of the ever increasing attendance, kept by Miss Agnes L. Pollard for the past 24 years. The records for the fiscal year show a daytime attendance of 32,271, evening 4,505, functions outside the museum 4,424, making a total of 41,200, by far the largest in our history.

The Board is deeply grateful to all the men and women whose aid has made the past year a memorable one in our annals, and looks forward to the future of the Institute with some satisfaction, especially in the accession of several promising young people. Some of us are already past the scriptural "three score and ten," and it is to the younger generation that we must look for the continuance of our efforts to promote intellectual intercourse on Staten Island.

REPORT OF THE TREASURER

MAY 21, 1932

INCOME

Balance last report	\$1,317.56
Receipts	3,129.47
	\$4,447.03

OUTLAY

Paid on account of building	\$417.70
Paid on account of loans	300.00
Paid for printing, etc.	2,966.80
	3,684.50
Balance, cash in banks	\$762.53

ASSETS

Cash in banks	\$762.53
John J. Crooke Fund	2,000.00
D. M. Van Name Fund	100.00
Permanent Fund	3,700.00
C. F. Nause Mortgage	10,000.00
Natural Science Fund	2,121.00
	\$18,683.53

Liabilities, \$9,700.

City appropriation for calendar year 1932	\$13,280.00
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DONORS FROM MAY 1, 1931, TO APRIL 30, 1932

- | | |
|------------------------------|--------------------------------|
| Abbott, B. R. | McSorley, Mrs. Camille L. |
| Barletta, Rev. Ettore V. | Mesurole, Frederick C., |
| Bishop, Miss M. W. | through H. H. Cleaves |
| Bonner, Mrs. E. C. | Miller, Capt. Thomas I. |
| Bonney, Mrs. P. A. | Millman, Henry |
| Britton, Dr. N. L. | Monnette, Otta E. |
| Burke, Joseph F. | Morton, Jr., John A. |
| Conner, W. Leslie | Nash, Miss A. C. |
| Dailey, Rev. W. N. P. | Olwig, Miss Marion |
| Dale, Miss Ida Dudley | Pollard, Miss Agnes L. |
| Davis, Wm. T. | Reformed Church in America |
| Delavan, Miss M., through | Roming, Albert |
| Miss S. G. Clark | Saffer, A. J. |
| Duncan, Winthrop Hillier | Scott, Mrs. John C. |
| Eugen, Theodore | Sheridan, John M. |
| Greenberg, Mrs. Adolph | Siegel, Ralph |
| Grimshaw, Mrs. W. J. | Smith, Charles |
| Harmon, Wm. E. | Snyder, Mrs. Gertrude W. |
| Henszey, Sr., Mrs. Samuel A. | Sperr, Percy L. |
| Hillier, J. Blake | Staten Island Woodcraft Trades |
| Hoffmeyer, Mrs. A. W. | Strauss, Dr. F. A. |
| Hunt, Mrs. C. W. | Stoker, Carol |
| Ingalls, C. A. | Theological Seminary, New |
| King, Miss Anna M. | Brunswick, N. J. |
| Kriegsmann, Henry | Thomas, Neil |
| Leng, Miss Edith U. | Wieninger, S. H. |
| MacNamara, Doreen | Witte, Mrs. H. A. |
| McGill University | |

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OF THE

STATEN ISLAND INSTITUTE

OF

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EDITED BY

CHARLES W. LENG, WILLIAM T. DAVIS

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Issued December 11, 1933

Staten Island, N. Y.

THE SCIENCE PRESS PRINTING COMPANY

Lancaster, Pa.

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VOLUME VII

OCTOBER 1932—MAY 1933

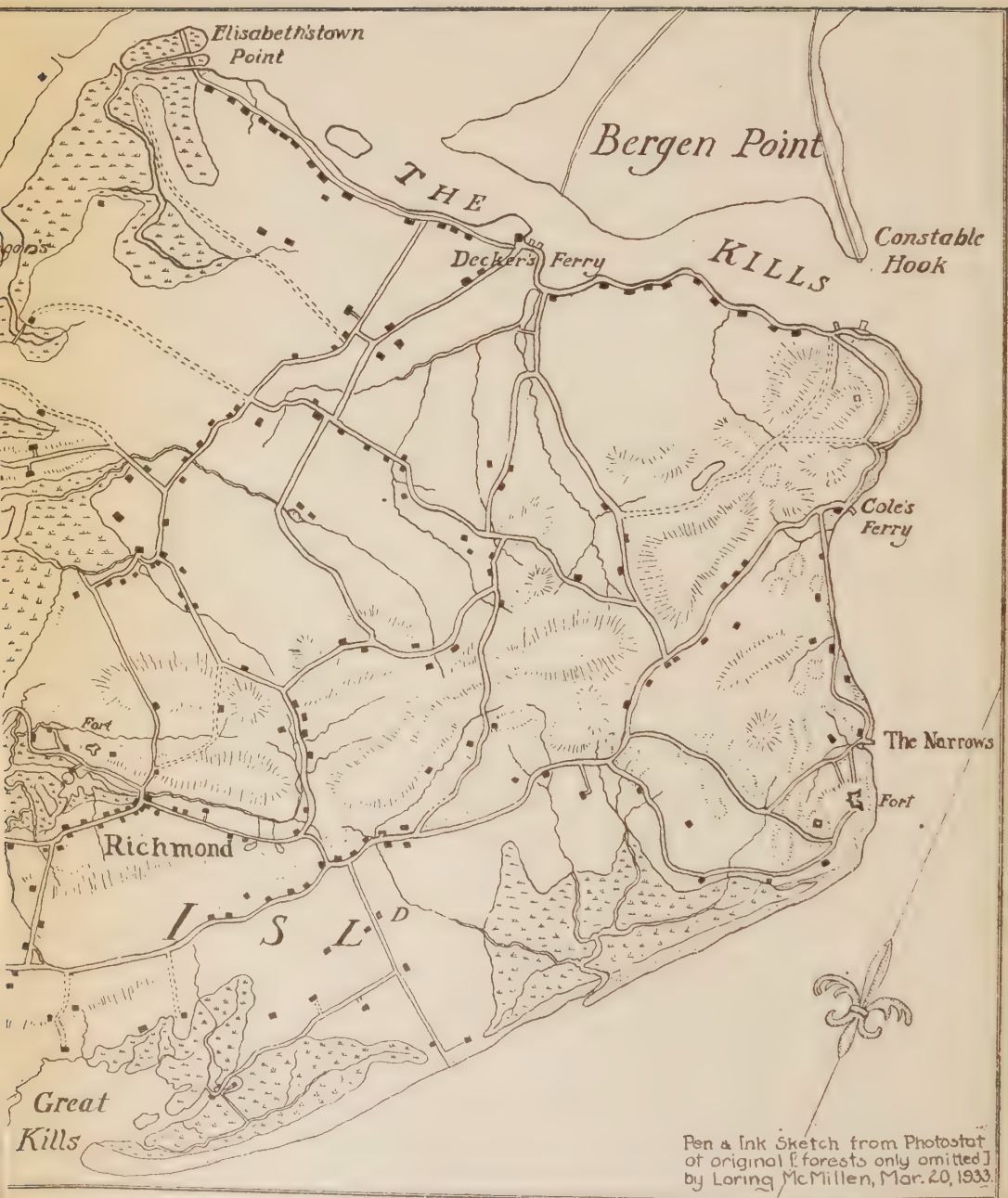
EDITED BY THE PUBLICATION COMMITTEE
CHARLES W. LENG, WILLIAM T. DAVIS
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PUBLISHED BY THE
STATEN ISLAND INSTITUTE OF ARTS AND SCIENCES
STATEN ISLAND, N. Y.
1933

THE SCIENCE PRESS PRINTING COMPANY
LANCASTER, PA.

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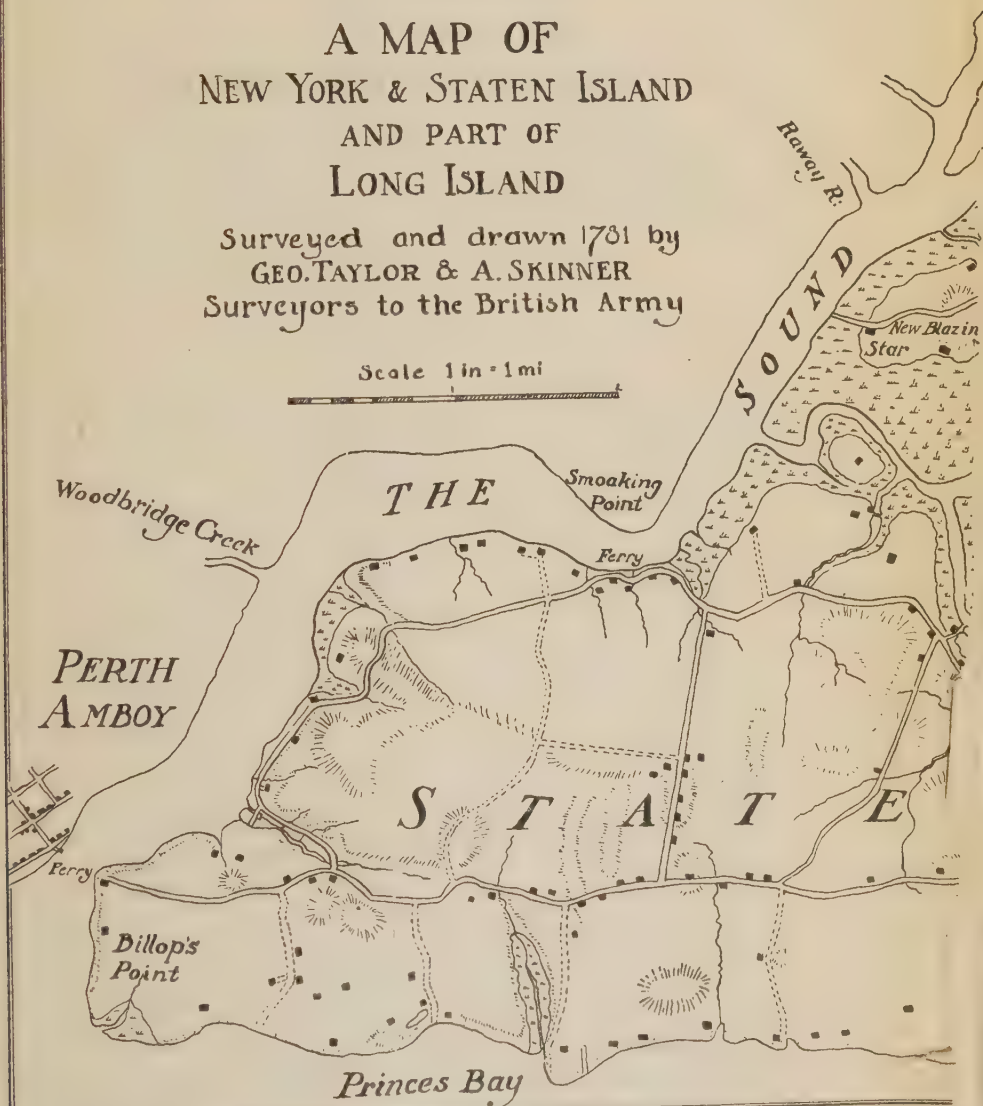
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STATEN ISLAND
IN 1781
AS SHOWN ON
A MAP OF
NEW YORK & STATEN ISLAND
AND PART OF
LONG ISLAND

Surveyed and drawn 1781 by
GEO. TAYLOR & A. SKINNER
Surveyors to the British Army

Scale 1 in = 1 mi



PROCEEDINGS
OF THE
STATEN ISLAND INSTITUTE
OF
ARTS AND SCIENCES

VOL. 7

OCT. 1932—MAY 1933

PARTS 1-2

The Taylor and Skinner Map of 1781

LORING McMILLEN

(WITH MAP)

There is one result of the British occupancy of Staten Island during the Revolution for which local historians can be thankful and that is the Taylor and Skinner Map. An examination of about 150 maps dated prior to 1850 clearly shows had it not been for Taylor and Skinner, surveyors of the British Army, Staten Island and part of neighboring Long Island would not have been mapped carefully for seventy or eighty years after the Revolution, as this period actually did elapse before another accurate map was turned out.

George Taylor and Andrew Skinner, "surveyors to His Excellency The Commander in Chief of the British Forces, General Sir Henry Clinton," were ordered sometime prior to 1781 to make a map to be entitled a "Map of New York, Staten Island, and Part of Long Island."

That they carried out their orders faithfully we can today well testify, and in view of the conditions under which they worked—strangers in an alien land, with little prior material to guide them, it is really astonishing that we find their work so carefully done.

The original manuscript map is in the British Museum and was first reproduced in this country in 1908 in "The Crown Collection of American Maps" edited by Archer B. Hulbert.

Most libraries and collections now have copies and the New York Public Library has in its map room a photograph of the

original. The map accompanying this text is a pen and ink copy of this photograph, but differs from it inasmuch as only the portion showing Staten Island has been reproduced. Likewise, the title has been changed to fit the map, and in order to avoid confusing the trees with houses the former have been omitted.

Upon examination we discover that this map is the result of an actual land survey by instruments rather than by the customary method of rapid mapping, in which the geographer sketched in the features and roughly estimated the distances. The topography, as a result, is truly shown, and details of roads, brooks, houses, and the outline of shore and meadow occupy positions which today can be accurately followed. The map thus can be enlarged and super-imposed on a present day map of the same scale with the pleasing result, as found by the writer, of locating the present positions of the early features.

As on the original map, roads are indicated by double parallel lines, houses by solid rectangles, forts by sign and name, and streams, marsh and hills by suitable symbols.

There are few place names and those we do see are well known, such as the ferries. Decker's Ferry at the present Port Richmond, Cole's Ferry at Tompkinsville, and New Blazing Star at Travis are indicated, but the ferries at Old Blazing Star, now Rossville, and at Billop's Point, now Tottenville, are revealed by the word "Ferry" only.

The Arthur Kill is called by its more common local name, the Sound, and the Kill van Kull is simply the Kills. Dongans Island, now Pralls Island is indicated and named, and Shutters Island indicated without name.

We note upon inspecting the map that the only village indicated by name is Richmond, and such well-known names as Old Town, New Town, and Castletown are omitted. We must here revise and modify some of our old ideas. Old Town, a village of seven houses in 1679, was in 1781 as it is today but the name of a locality. New Town never was a village in the sense of a close group of houses but the name always referred to a locality and the same is true of Castletown, the section where Governor Dongan had his country seat. Loath as we may be to abandon our traditions of Staten Island as the home of quaint villages, each with its pretty houses closely grouped about a winding street near a stream or

hillside, it is of more importance historically that we recognize the truth, however drab it may be. Yet those of us who cling to the quaint and picturesque without which history would be devoid of much charm can point to Richmond in 1781 and to Old Town as it was 260 years ago as villages in the true sense. From the distribution of the homes as brought to light by this map, we can see that our Island of years ago was one of farms scattered along road and shore—picturesque structures, we can imagine, of whitewashed stone or painted clapboard.

The map is of particular interest because of its clear representation of the roads and houses. For here we can trace and locate those man-made features that, in many instances, still exist in their original state.

Of 271 houses shown on the map, thirty-five or forty can still be seen in a more or less altered condition. Foundations and traces of approximately one hundred more can be found in fields or by highways, hidden by brush and catbrier, or incorporated in the foundation of some modern home. A study of this map has disclosed homes and locations of former homes of our early citizens which would have otherwise never been uncovered unless through hours of painstaking research.

The Perine, the Billop, and the Christopher houses are among the better known shown on this map, as well as the Britton cottage, the Lake-Tysen house, the Kruser-Pelton house, and the Guyon house, the latter demolished a few years ago. With the map as a guide, two houses at South Beach, hitherto unknown, the C. Vanderventer house and the Kettletas house, were found still to be standing. Likewise an old house on Burger Avenue and the Joshua Mersereau house on Huguenot Avenue near Amboy Road were disclosed, and we know there are others which will bear study and will probably add much to the graphic side of our history.

Of importance historically is the careful indication on the map of the mills at the time of the Revolution. For gone are these homely factories of the past. Thirty-five to forty years ago the growth of large industries drove the grist mill and the saw mill from our creeks and streams. Those picturesque frame structures standing close to salt creek or fresh brook were quite common to our Island and fortunately through photographs and the

aid of the Taylor and Skinner Map we can locate and visualize these early factories.

The sites of eight mills shown on this map can be located today. Weir's Mill on Weirs Creek, Richmond Valley, is here discovered to be earlier than 1803, its supposed date of erection. That there was a mill on Jesse Bedell's Mill Creek at a point where the creek runs through a rift in the highland towards Lakes Island is another revelation of the map. The Bedell Mill, known as Stillwell's Mill during the Revolution, is shown on the site now occupied by Vanbro's sand and gravel establishment.

Gieb's Mill and Ketcham's Mill are shown respectively on the creek and highland back of Richmond. Merrill's saw mill opposite Dongan's Island is indicated as well as the site of Dongan's Mill at Palmers Run. The only other mill shown is Lake's on Mill Creek which empties into the Great Kills.

The Taylor and Skinner Map is also valuable for its careful delineation of the roads. There are two kinds depicted: double unbroken parallel lines indicate improved roads and broken lines unimproved roads. By the terms "improved" and "unimproved" it is understood we refer only to the respective depths of the mud holes. For roads in 1781 were all dirt, as MacAdam had not yet taught road builders his revolutionary methods.

Some of these old picturesque lanes which have changed little in their paths during the last 150 years are Richmond Terrace, Richmond and Amboy Roads, Morningstar Road, Richmond Hill Road, Rockland Avenue, Watchogue Road, Richmond Avenue (as far as Richmond Hill Road), Annadale Road, Huguenot Avenue, Woodrow Road (between Bloomingdale Road and Huguenot Avenue), Bloomingdale Road, New Dorp Lane, Mill Road, Old Town Road, Fingerboard Road, Giffords Lane, Clove and Little Clove Roads, Willowbrook Road, Todt Hill Road, Great Kills Road, Princes Bay Road, Signs Road, Pollion Avenue, Richmond Valley Road, and sections of Manor Road, Brielle Avenue, Victory Boulevard, and Arthur Kill Road.

The following roads have altered their courses in varying degrees since this map was made. Bay Street in 1781 ran along the beach; St. Marks Place followed somewhat the present course of St. Marks Place, Hamilton Avenue and Westervelt Avenue; Jersey Street, running in a parallel position, then followed Brighton

Avenue; Victory Boulevard in part followed the valley connecting Silver Lake and the Clove Lakes instead of going over the hill position as now; Forest Hill Road ran in an entirely different route, now nearly obliterated, leading from the Latourette House on the Municipal Golf Course down through Bucks Hollow and joining Rockland Avenue at a point about one hundred yards to the west of its present intersection; Arthur Kill Road, from its present joining with Richmond Valley Road, once followed the shore to the Kreischerville Brick Factory rather than taking the hill route as we find it does today.

Traces of these forgotten roads are still visible, and a pile of stone by some brook, a leveled spot or a house set askew betray their former paths.

It is refreshing in this period of rapid change and too little appreciation for landmarks to find such a vivid reminder of our past as the Taylor and Skinner Map. The sound of the mills with their faint whir of grinding stone, the thrash of their great wheels, and the calls of miller and farmer in their exchange of jest and goods are sounds which are forever stilled. The plain but beautifully proportioned homes with their clean-kept yards and tidy exteriors, and good folk coming and going, are hidden in a press of doubtful architecture. The narrow dirt roads, winding and turning from hillside to valley, hiding at every turn a picture beyond, are widened speedways today, and only the broad expanse of our salt meadows, some scattered open fields, and here and there a lonely old house remain to recall to us Staten Island's former rural beauty.

But to us to whom the things of the past are a beauty in themselves, as well as a guide to the present and future, we can, through such mediums as the map of George Taylor and Andrew Skinner, re-enact scenes of a picturesque past.



ARTHUR HOLLICK

(From a photograph taken in his study at The New York Botanical Garden by
Dr. E. E. Sherff, February 6, 1929, and loaned by Dr. Marshall A. Howe.)

Arthur Hollick

1857-1933

(WITH PORTRAIT)

In the Museum Bulletin for April we recorded with deep regret the death, on March 11, 1933, of Dr. Arthur Hollick. He was one of the founders in 1881 of the Natural Science Association of Staten Island, a contributor to its Proceedings, including also the present series, for a period of fifty years, and a paleobotanist of national reputation. It is fitting therefore that an account of his life, and of his publications relating to Staten Island, should be published in these pages.

Charles Arthur Hollick, for many years known simply as Arthur Hollick, was born at New Brighton, Staten Island, on February 6, 1857. He was the son of Frederick Hollick, M.D., an English physician, and Eleanor Eliza Bailey. His early education was acquired at private schools in New York and Wiesbaden, Germany, and was followed by a course in Columbia College, School of Mines, where he graduated as Ph.B. in 1879. He received his doctor's degree, Ph.D., from Columbian (now George Washington) University of Washington, D. C., in 1897. In a broader sense his education was also acquired in tramps afield on Staten Island, evidence of which was early shown by his publication, in conjunction with N. L. Britton, of "The Flora of Richmond County, New York." This appeared in the year of his graduation, 1879.

His first employment after graduation was as superintendent of a mine in Mariposa County, California, followed by five years' work in sanitary engineering, which led to his being a member of the New Brighton Board of Health from 1886 to 1894. During these years he was also occupied in continuing those walks over Staten Island which led to his literary efforts, entitled "Reveries of a Tramp," commencing in 1889, and numerous scientific contributions on geology, botany, and archaeology.

The year 1881 was the most important for it witnessed his marriage on September 19 to Adeline Augusta Talkington, the fiftieth anniversary of which both bride and groom happily lived to celebrate; and his participation on November 12 in the founding of

the Natural Science Association of Staten Island, destined to grow into the present Institute, with its public museum, collections of specimens and books, and many affiliated societies. Of that Association he was the first corresponding secretary, later also recording secretary, and from 1914 to 1919 director of the museum.

In 1892 his more intimate relations with Columbia University began with his appointment as an assistant in the department of geology, and continued until 1901. During this period he was also employed in part on the geological surveys of New York, New Jersey, Maryland, and Louisiana. From 1901 to 1914 he served the New York Botanical Garden as curator in the department of fossil botany. His reputation as a leading paleobotanist became established by his studies in the Yukon region, and by his publication in 1906 of the "Cretaceous Flora of Southern New York and New England." The fruits of his explorations on Staten Island are exemplified in this work by the enumeration of 79 species from Staten Island, including *Kalmia brittoniana* and *Myrica davisii*, dedicated to his lifelong friends, N. L. Britton and William T. Davis. The plates in this work, and in many of his publications, are drawn by himself, though seldom signed; and several of his sketches of Staten Island scenes preserved in the museum attest his skill as a draughtsman.

Dr. Hollick's administrative duties as director of the museum from 1914 to 1919 interrupted his scientific work, but it was resumed soon thereafter by his connection as paleobotanist with the New York Botanical Garden and United States Geological Survey. These connections continued for the remainder of his life, and culminated in 1930 in the publication by the Geological Survey of Professional Paper No. 159, a sumptuous quarto volume with 86 plates on "The Upper Cretaceous Floras of Alaska."

Notwithstanding the distant fields into which his studies led him, including Wyoming and the West Indies as well as Alaska, Dr. Hollick's interest in Staten Island never ceased. He participated, though nearly 75 years old, in the celebration of the Semi-Centennial Anniversary of the Institute, on November 12, 1931; and contributed "Records of Triassic Fossils on Staten Island" to the Proceedings of that year. His vigor indeed was remarkable, due perhaps to his recreations being healthful outdoor

sports; and in the last year of his life he made an arduous journey in Cuba, for the further study of its fossils.

In a letter to Dr. Britton, dated Holquin, Jan. 4, 1933, he wrote "My journeyings, on foot, by horseback, and by auto trucks, auto buses, and automobiles, has already covered some 700 miles and has taken me into all sorts of country—lowland and mountains. . . . I have already been in five of the provinces—Havana, Matanzas, Santa Clara, Camaguey, and Oriente—and next week there are several localities in Pinar del Rio to be visited."

His versatility was as remarkable as his vigor. It is illustrated by the public service he rendered as vice-president and president of the Park Commission, 1897-1904, as president of the Boulevard Commission, 1896, member of the Board of Education, 1907-1910; as well as by his membership in clubs and societies, including the following: American Association for the Advancement of Science, Geological Society of America, Palaeontological Society of America, Washington Geological Society, Botanical Society of America, Torrey Botanical Club, Wild Flower Preservation Society, Staten Island Tree Planting and Protective Association, International Longfellow Society, Association of Museums, New York Academy of Sciences, Staten Island Civic League, Staten Island Club, Richmond County Country Club, Nantucket Maria Mitchell Association, Sigma Xi Society, Delta Kappa Epsilon Fraternity, and perhaps others unknown to us.

Dr. Hollick's name is perpetuated in science by the numerous new species he described, of which a list will be published by the New York Botanical Garden; and by the species dedicated to him by his contemporaries, of which as far as known to us, a list is given below. A commemorative tablet will be placed on the collection of Staten Island Geology in our Public Museum.

The magnitude of the work he did for Staten Island, especially in studying its Geology and Botany, is shown by the bibliography of Staten Island items appended. These are 429 in number, ranging from a few lines in length to copiously illustrated quartos, covering Staten Island in part, fully half of which refer to the subjects to which his life was devoted. It is gratifying that a born Staten Islander should have reached the rank in science attained by Dr. Hollick, retaining always his interest in Staten Island, and its Institute of Arts and Sciences.

Dr. Hollick was survived by his wife and two daughters. His only son, Roger Frederick Hollick, born 1885, is deceased. His daughter, Eleanor Adeline Wells, is the mother of his grandson, William Arthur Wells. His daughter Grace Eaton Pentz is the mother of five grandchildren, *viz.*, Grace, Dorothy, Arthur, Audrey, and Carl Pentz.

LIST OF SPECIES DEDICATED TO DR. HOLLICK

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- (Appendix No. 3.) Ditto, Additions, Corrections, and New Localities, 1883-1884, Bull. Torrey Bot. Club, XII, 1885.
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- (Appendix No. 6.) Ditto, Additions and New Localities, 1890, Bull. Torrey Bot. Club, XVIII, 1891.
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ITEMS FROM PROCEEDINGS OF NATURAL SCIENCE ASSOCIATION OF STATEN ISLAND

These items are often printed without a title; where one exists, it is here given in quotation marks.

VOLUME I

Page	1.	Stone Anvil. Fossil Leaf Impression.
"	2.	Fossil Leaf Impression. Stone Sinkers.
"	6.	Common Seal. Great Northern Diver. Indian Implements.
"	7.	Granite Outcrop at Tompkinsville.
"	8.	"Recent Discoveries of Indian Implements at Tottenville."
"	9.	Stone Head.
"	10.	Crow's Nest.
"	12.	Shell Mounds at Tottenville and Kreischerville.
"	18.	Peat Bogs near Richmond.
"	21.	Red-shouldered Hawk.
"	22.	Third Appendix to Flora of Richmond County.
"	25.	Partridge Berry.
"	27.	Fossil Vegetable Remains at Kreischerville.
"	28.	"Preliminary List of the Birds known to breed on Staten Island."
"	31.	Fossil Leaves from Kreischerville.
"	32.	Bird Protection. Indian Implements.
"	34.	Indian Shell Heaps at Morgan's Station, N. J.
"	35.	<i>Carya tomentosa</i> .
"	36.	"Memorandum in regard to Bird Destruction."
"	42.	Early History of Natural Science Association of Staten Island.
"	45.	Glacial Striation on Staten Island.
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"	58.	Artesian Well Boring. Germination of Lemon Pits.
"	59.	Indian Pottery.
"	63.	<i>Heliocharis prolifer</i> .
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"	71.	Hybrid Oaks.

VOLUME II

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"	16.	Shore Birds at South Beach.
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"	21.	Wheat sprouting while in the ear.
"	42.	<i>Draba verna</i> . Fossil Leaves.
"	43.	Old Milestone.
"	45.	<i>Anemone hepatica</i> .

- " 50. *Clematis ochroleuca*, &c.
- " 58. *Basidiomycetes*.
- " 63. Cretaceous Clay at Green Ridge.
- " 71. Additions to Flora of Staten Island.
- " 73. Drift Fossils.
- " 75. Slickenside Soapstone.
- " 78. Barred Owl.
- " 79. Indian Deed. Fungi. Fossils.
- " 86. *Medicago Sativa*.

VOLUME III

- Page 7. Cretaceous Fossils.
- " 12. Cretaceous Fossils.
- " 13. Cretaceous Fossils. Diorite. Barred Owl.
- " 15. Botanical Notes.
- " 20. Pegmatite Granite. Silver Hake. Snow Bunting. Fossil Leaves.
- " 22. *Galinsoga*. Plantago.
- " 23. "Additions to the Cretaceous Flora of Staten Island."
- " 26. "Notes on Staten Island Clays collected for the World's Fair."
- " 34. Drift Fossils.
- " 35. Snow Bunting. Horned Lark.
- " 36. Earthquake of March 8, 1893.
- " 37. "Indian Rubbing or Polishing Stones."
- " 40. Clays of Staten Island.
- " 41. Indian Implements.
- " 45. "Notes on the Geology of the new Railroad Cut at Arrochar."
June 10, 1893.
- " 63. "Staten Island Geology at the World's Fair."
- " 63. *Salicornia*. Liquidamber.

VOLUME IV

- Page 2. "A Recent Find of Drift Fossil at Prince's Bay."
- " 2. "Recent Literature relating to Staten Island."
- " 6. "Mineralogical Notes."
- " 11. "A Recent Discovery of Fossil Leaves at Arrochar."
- " 20. "The Barred Owl on Staten Island."
- " 32. Mastodon's Tooth.
- " 37. "Plant Remains in Limonite, from the Moraine at Clifton, and
their Significance."
- " 53. Opossum. Brass-rimmed Spectacles.
- " 55. "Additions to the Local Flora."
- " 60. "Our Water Supply."
- " 69. Cauda-Galli Grit.
- " 72. *Tussilago farfara*.
- " 75. "Albino *Viola Sagittata* Ait."
- " 76. "Clay Iron—Stone containing *Corbula*."

- " 82. "Recent Literature relating to Staten Island," (with Wm. T. Davis.)
- " 83. *Onoporden ocanthium*.

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- Page 3. "Further Discovery of Drift Fossils at Prince's Bay."
- " 12. "Iron Ore from the vicinity of New Springville."
- " 79. "Recent Literature relating to Staten Island."
- " 80. "The Tulip Tree and its Ancestors."
- " 92. *Spirifera arrecta*.
- " 93. "A recent examination of the Serpentine Area of Staten Island."
- " 95. "Recent Literature relating to Staten Island."
- " 97. "A Gray Squirrel in Captivity."

VOLUME VI

- Page 2. "Recent Additions to the Cretaceous Fossil Flora of S. I."
- " 10. "Recent Literature relating to Staten Island." Also p. 19, 22, 27, 56, 61, 63.
- " 12. "Monocotyledonous Plant Remains in Limonite."
- " 13. "A Manx Cat and Kitten."
- " 27. "Further Notes on the Barred Owl and Red Shouldered Hawk, in the Bull's Head Woods."
- " 30. *Lunaria annua*. *Moriconia cyclotoxon*. *Astacus fluviatilis*.
- " 37. *Hieracium pratense*.
- " 42. "Minor Notes. [Serpentine and *Salsola*.]"
- " 49. Staten Island Scenes.
- " 54. Acicular Ice Crystals.
- " 55. "Geological Notes."
- " 56. "The Barred Owl."
- " 57. "Union between Dissimilar Trees."
- " 58. *Phacops cristata*.
- " 62. "Notes on our Water Supply."

VOLUME VII

- Page 2. Recent Literature relating to S. I. Also p. 4, 10, 14, 22, 25, 32.
- " 4. *Potentilla anserina*.
- " 9. "An Example of Isostasy."
- " 12. Quarantine Literature.
- " 19. "Notes on Deep Wells, at Prince's Bay and Huguenot."
- " 20. "Notes on the Geology and Botany of the Fox Hill Golf Links."
- " 24. "A Quaternary Lake Deposit in the Moravian Cemetery."
- " 30. "Geological Notes."
- " 33. "Further Notes on the Quaternary Lake Deposit in the Moravian Cemetery." (with Thomas Craig.)
- " 37. "Drift and Kame Deposits on the line of the South Side Boulevard."

VOLUME VIII.

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"	4.	"Recent Literature relating to S. I." Also p. 15, 19, 42, 61, 69.
"	12.	"Notes on some Staten Island Birds."
"	16.	"A recently introduced Grass."
"	17.	Limonite.
"	20.	Leaves bleached by copper fumes.
"	21.	"Grape Leaves blighted by acid fumes."
"	21.	"Two Staten Island Sponges."
"	25.	"List of Fungi, collected at Tottenville."
"	33.	"Notes on the Ice Storm of Feb. 21st." [1902.]
"	35.	Quarantine.
"	39.	"Notes on our common stemless blue Violets."
"	41.	"Notes on recent exposures in the Soapstone Rock."
"	45.	"Some Comparisons Water Supplies."
"	51.	"Some previous attempts Billopp House."
"	52.	"The Renaming of our Streets."
"	53.	"Two Additions to our list of Drift Fossils."
"	55.	"The Latest Movement for Public Parks on S. I."
"	57.	"Analyses of Solid Matter Water Supplies."
"	68.	"Depth and Form of the Silver Lake Basin."

VOLUME IX

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"	8.	Drift Fossils.
"	11.	"Some recently discovered facts in regard to Silver Lake."
"	23.	Drift Fossils.
"	25.	"Botanical Notes."
"	25.	"Geological Notes."
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"	31.	"A recent discovery of Amber at Kreischerville."
"	32.	Silicified Coral.
"	33.	"A remarkable Sewer Obstruction."
"	35.	"Additional Notes on the Occurrence of Amber at Kreischer-ville."
"	43.	"Staten Island's First Resident Naturalist."
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"	10.	Butternut.
"	16.	"A newly discovered Outcrop of Triassic Rock on S. I."

- " 19. Starlings.
- " 21. "A Fossil Forest Fire."
- " 23. "Insect Borings in Cretaceous Lignite from Kreischerville."
- " 29. Dolomite.
- " 31. "A Soapstone Drift Boulder containing Magnetite."
- " 43. "Two old publications relating to S. I. and Vicinity."
- " 91. Cretaceous Formation.
- " 127. Greeting to New York Academy of Science.
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VOLUME II

- Page 9. "Drift Boulders from the Shore at Tottenville."
- " 13. "Discovery of Lignitic and Bituminous Coal at Kreischerville."
- " 34. "Chemical Analysis of Cretaceous Amber from Kreischerville."
- " 42. Cretaceous Fossils.
- " 43. Clay Concretions.
- " 45. Marble House.
- " 125. "The Chestnut Disease on Staten Island."
- " 144. "Geological Notes in connection with a recent Lawsuit against
the City."
- " 165. Coral Pebbles.
- " 166. Concretions and Geodes.
- " 167. Phragmites.
- " 189. "Recently Introduced Grasses and Sedges."
- " 190. "A Maple Tree Fungus."
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VOLUME III

- Page 31. "Notes on Specimens recently collected in the Serpentine Area
of S. I."
- " 49. Report of Prize Committee.
- " 51. Staten Island Soils, Sands, &c.
- " 62. "Notes on Introduced Plants collected near Arlington, S. I."
- " 82. Serpentine.
- " 86. Walter C. Kerr.
- " 108. Plants from Arlington.
- " 109. "Changes and Inconsistencies in the Spelling of Local Place
Names by U. S. Geological Survey."
- " 149. Aaron Burr.
- " 150. Quartz Crystals.
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VOLUME IV

- Page 82. Hybrid Oaks.
- " 83. Scotch Thistle.
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VOLUME V

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"	11.	"Union of an Oak and a Beech."
"	29.	Fossils, &c.
"	29.	Swamps, Ancient and Modern.
"	60.	"Some Botanical and Geological Features of the Silver Lake Basin."
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"	110.	Bayberry. Algae.
"	114.	Old Woodcuts.
"	115.	Old Cradle.
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"	139.	Rare Fungus (<i>Pholiota lutea</i>).
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"	69.	"Housman's Cave."
"	100.	"An Interesting Old Publication."
"	141.	"Sanderson Smith."
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"	199.	Old Books and Newspapers.
"	163.	Requests for Information.
"	164.	Tricarpellary Walnut.
"	165.	Weather.
"	167.	Museum Accessions.
"	213.	Little Nine Partners.
"	214.	Museum Accessions.
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"	53.	Taylor & Skinner Map of 1781.
"	54.	Sharrett Documents.

- " 54. Staten Island Views.
- " 56. Staten Island "Mirror."
- " 58. Botanical Notes.
- " 71. Flood of September, 1917.
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- Page 66. Globiformes graveolens.
- " 67. Tussilago farfara.
- " 120. "Erect Silky Leather Flower on S. I.
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- Page 159. Literature relating to S. I.

VOLUME III

- Pages 123 to 130. Literature relating to S. I.

VOLUME IV

- Pages 79, 80. Literature relating to S. I.

VOLUME VI

- Pages 1 to 22. "Records of Triassic Fossils on S. I., with descriptions of
new species," pls. 1-7, 1931.
- Pages 188-189. Literature relating to S. I.

TOTAL

Items in the "Proceedings," excluding reviews,	243
Reviews in the "Proceedings" of books, etc., relating to S. I.	122
Items relating to S. I., outside the "Proceedings,"	64
	429

Natural History Records from the Meetings of the Staten Island Nature Club¹

WILLIAM T. DAVIS

The meeting of June 25, 1932, was held in the Public Museum.

Captain Thomas I. Miller exhibited several flower pots containing plants of the Canary Bird vine and said that if the seeds were soaked in water for about 36 hours before planting they would grow. Mrs. Miller showed a stalk of *Lilium elegans bicolor*, a very attractive plant, and stated that it had been in bloom for six weeks. She also exhibited numerous cultivated roses.

Mrs. H. M. Trench reported several wild mice that she had found dead on her bird-feeding stations. Their heads had been eaten.

Mr. Adolph W. Callisen reported that the grackles that came to his garden, 1288 Bay Street, Rosebank, would often soak crusts of bread in the bird fountain until they were soft enough to eat. He further stated that he had supposed, since the vicinity of his home had become more thickly settled, that the gray squirrels had departed, but was pleased to report the return of a family of four.

Mr. George B. Wilmott showed an albino marbled salamander that he had raised from a larva collected in Reed's Valley about a year ago. A spotted salamander collected at the same time had grown much faster than the marbled salamanders. A marbled salamander collected by Alanson Skinner in New Jersey in 1925, and kept alive for seven years by Mr. Davis, was also shown.

In the absence of Mr. Joseph Byron, a specimen of the large Long-horned beetle, *Desmocerus palliatus*, collected by him on Emerson Hill, was shown by Mr. Stecher. Though elder bushes abound on Staten Island, this beetle is quite rare, though common in parts of New Jersey.

A spotted garter snake of a peculiar reddish color, collected by Mrs. P. A. Bonney on Grymes Hill, June 16, 1932, was shown by her.

Mr. Hans L. Stecher reported the results of a trip to Glen Island, Long Island Sound, N. Y., on June 5, 1932, the locality

¹ These records have been compiled largely from the minutes of the club, Hans L. Stecher, secretary.

where he had collected some specimens of the white anemone (*Sagartia leucolena*) about a year ago. At first he was unable to find any *leucolena*, but later when the tide had fallen he collected eleven specimens among the very numerous orange-striped anemones, leaving a number of others undisturbed. When these were placed in the aquarium it was noticed that they were of a pale salmon color while those collected about a year ago in addition to being a great deal larger, were almost white.

Mr. Carol Stryker reported on the birds located at Huguenot near the home of Mrs. C. Steadman, June 20, 1932; cardinals, white-breasted nut-hatch, tufted titmouse, mourning doves, and in addition some more common species evidently nesting in the vicinity. He further stated that while he was photographing a cluster of flowers of the coral honeysuckle he discovered a nest of the cotton-tail rabbit on the ground among the catbriers and honeysuckle. The eyes of the little rabbits were still closed. On June 18 he had observed near Rossville, a number of small chestnuts with flower clusters not quite open.

Mr. Joseph F. Burke exhibited a specimen of serpentine from Albert Street and Lightner Avenue, Staten Island, containing a microscopic vein of foliated graphite. He demonstrated how the streak differed from molybdenite, a mineral having a similar appearance, when glazed porcelain is used as a streak plate—the graphite forming a black streak, whereas the molybdenite forms a greenish streak. On the regular unglazed porcelain streak plate, both minerals yield black streaks.

Mr. Wm. T. Davis exhibited a copy of "The Story of Our Boulders, Glacial Geology of the Brooklyn Botanic Garden," recently issued as Guide No. 7 by the Brooklyn Botanic Garden. It is a pamphlet of 42 pages with many illustrations and presents a comprehensive account of the last glacial period in a very interesting manner.

He also showed the horn of a Greenland caribou, *Rangifer groenlandicus*, found on Clavering Island, North East coast of Greenland in 1931, and presented by Capt. Robert A. Bartlett and Junius Bird. The caribou appear at present to be extinct on the North East part of Greenland, the last one was seen about 1869.

Mr. Davis showed the red fungus *Mutinus (Phallus) caninus*, or a nearly related species, collected at West New Brighton, June

18, 1932; the scouring rush, *Equisetum hyemale*, found growing almost to the exclusion of other vegetation on top of a bluff in the Fort Wadsworth Reservation, and *Geranium carolinianum* from Tottenville with the foliage turning red by June 11. This species of geranium grows also in a sandy area in the Fort Wadsworth Reservation.

The meeting of September 24, 1932, was held in the Public Museum.

Mr. Charles W. Leng reported on the abundant fruit crop of this year, particularly peaches. On some trees the branches had to be supported to prevent them from breaking.

Dr. Wm. H. Wiegmann reported that on August 31, 1932, the day of the eclipse, that birds were very numerous at Oakwood beach: Hudsonian Curlew 3, Greater Yellow-legs 7, Willet 1, Dowitcher 20, Pectoral Sandpiper 1, Least Sandpiper, common; Semipalmated, few; Sanderling, abundant; Turnstone, common; Knot 6, Black-bellied Plover 53, Semipalmated Plover, abundant; Laughing Gull, abundant.

On September 13 a Pigeon Hawk was seen pursuing a Bank Swallow over the marshes southwest of Richmond. It would ascend about thirty feet and then strike downward, but the swallow always dodged successfully. After making at least eight such attempts, the hawk departed.

Nearly all of the members had seen something of the eclipse and gave accounts of it. Dr. James P. Chapin stated that he with Mr. Harry C. Raven and Mr. Davis had gone to eastern New Hampshire, but that at the time of the eclipse, which was observed from near Freedom, the sky was overcast. The birds seen acted as if going to roost. Mr. Howard H. Cleaves had a perfect view of the eclipse in New England near the coast and took moving pictures of people looking at the sun under various circumstances. He also stated that the birds appeared to be seeking their roosting places, but that the Harbor Seals were not affected.

Mr. L. W. Anderson gave an account of a rattlesnake that had crawled into his camp.

Mr. Geo. B. Wilmott told of his trips with Mrs. Wilmott to various parts of New York State and New England. He showed specimens of the Mud Puppy (*Necturus maculosus*) taken from

Johnson's Creek near Lake Ontario, New York, and Purple Salamanders (*Gyroneophilus porphyriticus*) from Bashbish brook, Mt. Washington, Mass. He further showed a photograph of the total eclipse of the sun which they had taken at Biddeford, Maine.

Among the ferns that Mrs. Wilmott had observed in the Catskills, along Kaaterskill Creek, were the Walking fern, Purple Cliff Brake and Rusty Woodsia.

Mr. Wm. T. Davis stated that the remarkable run of Chub Mackerel in the Upper Bay during the summer should be recorded. He showed specimens of the fish and stated that they first appeared in the last days of July, 1932, and on August 2nd the *Advance* recorded that on the previous day the Bay was: "Alive with Big Schools of Tiny Mackerel," and that "nearly 1,000 Staten Islanders descended upon the Municipal Piers. From Pier 6 to Pier 16, the men, women and children gathered. The parents brought their babies in their carriages. Lunch, for those that had it, was packed. All those big enough and able to hold a pole dropped line into the water."

"Everybody caught fish. One man caught 452. Catches of 50 and 75 were common. . . . Late in the afternoon the fishermen still were holding forth. A total of 98 automobiles was counted between Pier 6 and Pier 16. The automobiles brought men, women and children to the fishing outing. Many more walked to the piers."

The *New York Times* of August 4, 1932, recorded that the "Mackerel Run in Inner Harbor Creates Stir as Impromptu Fishermen Rush to Docks," and the *Herald-Tribune* of August 5th stated that "Fish Run Puts Mackerel on Staten Island Tables."

On August 9 the Mackerel were taken in great numbers at the pier in the Quarantine grounds at Fort Wadsworth, and they had also returned to parts of the Upper Bay by August 13. The differences between the Chub Mackerel and the so-called "Common Mackerel," sometimes associated with it, were explained and illustrations shown.

Mr. Davis said that from August 22 to 25 he and Mr. Howard H. Cleaves had camped in southern New Jersey at three different localities, and had visited numerous places by automobile. He showed a number of specimens, including two partly destroyed

eggs of the Black Skimmer, and one of the Common Tern, found on Goose Island in Little Egg Harbor. The eggs had probably been pecked by gulls. He exhibited several mature Ghost Crabs (*Ocyropsis albicans*), which had been taken at night with the aid of an electric flash light on the shore at Town Bank on the Delaware Bay side of Cape May County. The mature crabs now extend further north up the shore than formerly, probably aided by the recent mild winters. He further showed herbarium specimens of the Wax Myrtle (*Myrica cerifera*); the High Water Shrub (*Iva frutescens*) with much narrower leaves than Staten Island specimens, and *Pinus taeda*, the Old Field Pine, all from Town Bank. He said that one of the camps was among cedars, hollies and a tangle of cat-brier, at Town Bank, where occurred the Cicada, *Tibicen latifasciata*. All that were heard, sang during the sunny hours of the day, and not at dusk as often does *Tibicen winnemanna*, the allied species occurring about Washington, D. C., and elsewhere to the south and west.

Mr. Davis showed photographs taken during a trip from August 29 to September 1, to New England with Harry C. Raven and Dr. James P. Chapin, on what was styled the "Pine Tree Astronomical Expedition." The eclipse was observed from near Freedom, New Hampshire. The Museum of Comparative Zoology at Cambridge, Mass., was visited and a short time was spent at Squam Lake, New Hampshire, as guests of Mr. Harold J. Coolidge, Jr. Mr. Davis stated that the leaves of both the red oak and sugar maple are thicker on northern New England trees than they are on the same species growing on Staten Island.

He also showed one of the beautiful globe-like seed-heads of the Sow Thistle, *Sonchus asper*, preserved in a small corked bottle, and pointed out that the interlocked pappus helped to hold the delicately formed globe together.

Mrs. P. A. Bonney made a further report on the unusual garter snake collected by her on Gryme's Hill, Staten Island, June 16, 1932. The snake had been shown to Dr. Ditmars, of the Zoological Park, who was much interested in its peculiar reddish color. The specimen is still in the Museum's collection of living snakes.

Mr. Carlton Beil stated that he had collected specimens of the Prickly-pear Cactus in the Pine Barrens of New Jersey, and that on some plants the fruit was small and egg-shaped, while on other

plants it was much larger and angular. He also showed a wax model of a Red Salamander that he had made for the Museum collection.

Mr. Carol Stryker had visited an Indian Reservation in the western part of the state and expected to make a report at a future meeting.

Mrs. Carol Stryker announced that the Museum Art Gallery had been secured for the exhibition of Nature Photographs, and expressed the hope that it might be one of the best so far had.

The meeting of October 22, 1932, was held in the Public Museum.

Mrs. A. W. Callisen made a further report about the grackles dropping hard biscuits into the bird bath until they were soft enough to eat.

Dr. Frank A. Strauss showed a collection of butterflies he had made near the docks at Tompkinsville on October 2, 1932, which included *Pieris protodice* which has been a rare species on the Island in recent years.

Mr. Carol Stryker reported that Mr. Carlton Beil had seen a long-eared owl in the small wood-lot, corner of Theresa Place and Victory Boulevard, on the 18th of October, 1932. The owl had been discovered by several blue-jays. Mr. Stryker reported seeing a pied-billed grebe in Clove Valley. He showed an Indian arrowhead recently collected.

Mr. George B. Wilmott exhibited a large bullfrog taken in Reed's Valley, April 27, 1932, also the southern form of the tiger salamander called *Axolotl*, and explained that this salamander sometimes breeds while retaining the external gills and living in the water. On September 11, 1932, seventy-three Canada Geese were seen at Tottenville by him and Mrs. Wilmott.

The trip to John Burrough's "Slabsides," conducted by Miss F. A. Wiley, of the American Museum of Natural History, was reported on by Mrs. Wilmott, who also described the interior of the cabin. A photograph taken at Slabsides 30 years ago by Mrs. J. Nichol was shown.

Mr. Wm. T. Davis stated that he, Mr. Ernest Shoemaker and Dr. Wm. H. Wiegmann had visited Oakwood Beach on September 29, 1932, and had seen the rare buff-breasted sandpiper. The

bird was quite tame and after being observed at close range, it walked up the beach and disappeared among the golden-rods. Later it was seen in company with several black-bellied plover, and once more carefully examined with the aid of field glasses. This is the first known Staten Island record for the buff-breasted sandpiper. It breeds in the far North West in Alberta and Mackenzie, and winters in Argentina and Uruguay. It is a more abundant migrant in the Mississippi Valley. Many years ago this bird was believed to occur regularly on Long Island, but is now very rare and there are but a few records during the past forty years.

On the same day a Conger eel was received from one of the regular beach-fishermen and clam-diggers. The eel, when captured, bit one of the fishermen. The preserved eel was shown.

On October 2, 1932, some men and boys had killed a black-snake near the railroad station at Pleasant Plains. As they had no use for the snake, they willingly parted with it, and upon measurement it was found to be 4 feet 6 inches in length, which is only a half inch shorter than the one recorded as found killed near Silver Lake, October 23, 1920. In "Notes on Staten Island Blacksnakes," in the PROCEEDINGS of the S. I. Inst. of Arts and Sciences, for October, 1920, pp. 59-64, the habits of this species are treated at some length.

Mr. Davis also showed herbarium specimens of a high-bush blackberry, probably referable to *Rubus argutus*, or some of its numerous hybrids, that had been collected at the side of Adelaide Avenue, Oakwood, Staten Island, in October, 1932. The bush was remarkable on account of the great number of stout, recurved thorns along the stems. It was associated with other bushes armed in the usual manner. A living specimen; as well as a herbarium sheet, of the moss *Sphagnum cuspidatum torreyi* (Sullivant), was also shown. It came from Franklin Lake, Bergen County, N. J., August 15, 1932. Owing to its purplish color, it makes an interesting contrast when associated with the usual green plants in an aquarium. The identification was made in the New York Botanical Garden.

Mrs. Mary A. Seery reported an apple tree in her garden that recently bore not only the expected apples but some blossoms as well.

Miss Emilie O. Long called attention to the reports of mushroom poisonings by the local newspapers and stated that she had found numerous *Amanitas*, the usual cause of the poisoning.

Mr. Adolph W. Callisen read an interesting biography of John Burroughs prepared by him. He had personally known Mr. Burroughs, who had visited Staten Island on several occasions.

The meeting of November 26, 1932, was held in the Public Museum.

Mrs. H. M. Trench showed a potato that was one of ten from a plant that had grown from potato peelings buried with other kitchen refuse in her garden.

Mr. Wm. T. Davis read some items of local interest that had recently appeared in the newspapers, and pointed out that the *New York Times* of November 5, 1932, had thought the discovery of "A New Hybrid Oak" of sufficient importance to give the circumstance considerable notice, whereas the people of Staten Island take but little interest in the wonderful lot of hybrid oaks that grow on the Island and which may soon be destroyed. Properly cared for they would no doubt grow in interest with the passing years and possibly secure the attention they deserve.

The following account of *Coreopsis lanceolata* L., by Dr. Arthur Hollick, was read: A specimen of this introduced plant was collected July 13, 1932, on the bank of a dry watercourse that runs through the golf links of the Richmond County Country Club, in the vicinity of Todt Hill. The specimen was separated from a single, large, isolated bunch that had, apparently, been growing there for some time. The only other record of this species on Staten Island, as far as I am aware, is represented by a specimen in the local herbarium of the New York Botanical Garden, accompanying which is a label with the legend "Waste grounds, Todt Hill. N. L. Britton, Arthur Hollick, collectors, Aug. 16-18, 1914." If the species has persisted in that locality, independent of cultivation, during the past eighteen years—as might be inferred—the fact is interesting.

Mr. Davis stated that on November 4 he and Mr. Daniel L. Bridgman has visited Jamesburg, N. J., where he had found the same species of blackberry collected by him along the South River, July 3, 1905, and later determined by Dr. Rydberg as

Rubus nigricans Rydberg, supposed now to be *Rubus setosus* Bigelow, 1824. An interesting method of seed dispersal was also observed on November 4th. Two small, fluffy feathers from a turkey, that were being blown about by the wind, were found near the little church at Clarksburg, N. J. The larger feather had firmly attached to it ten seeds of the Spanish Needle or Bidens, while the smaller feather had collected fourteen such seeds in the course of its wanderings.

On October 31 an *Antiopa* butterfly had been seen to enter a hole in a stone wall along the Arthur Kill Road near Richmond. The butterfly remained in the wall but a short time, but returning re-entered the wall going completely out of sight. It was evidently exploring, and finding the chamber between the rocks unsatisfactory as a place to hibernate, it reappeared once more and this time flew away. A photograph of the entrance to the chamber was shown.

Mr. Davis said that on November 13, 1932, following the storm and very high tides of November 9-10, he had visited Oakwood Beach to see what damage had been done. The sand of the beach in places had been washed inland as much as 50 feet beyond the line of goldenrods, but where the beds of peat protected the shore the sand made less progress inland over the salt meadow. One of the three shacks on the beach had been washed away and a large boat that lay nearby, and in the shelter of which we used to sit, is now almost covered with sand. The drift from the beach had been washed inland and deposited on the tops of the high-tide bushes, indicating a tide of about 3 or 4 feet over the meadow. Some of the inhabited homes along the beach and nearer to New Dorp had been considerably damaged. A great many clams were washed ashore and the herring gulls were busily engaged in carrying them aloft about 40 feet and letting them drop on the hard wet sand so that the shells might be broken. A box of the shells thus freshly broken and from which the contents had been removed, was shown. Also a soft-shell clam that a gull had let fall when a short distance away, but becoming afraid, had failed to retrieve. One gull had evidently eaten many clams and had later thrown up a pellet consisting largely of bits of clam shells.

On the way from the beach the elevated plank walk that leads to Guyon Avenue was found to be badly damaged in places, the

planks being torn up. A rat that was headed toward the beach was met on this walk, but it turned back and started in the direction of Guyon Avenue, about a quarter of a mile distant. Now and then it would go to the edge of the walk and look over at the flooded meadow, and then resume its journey toward the upland. At last it reached a vacant house; took refuge on the piazza crouching in a corner where it was allowed to remain unmolested as it was no doubt pretty tired after its long run on the plank walk.

Mr. L. J. Stroud, 3 Cliff St., Rosebank, Staten Island, has an acknowledgment of a gift dated August 17, 1928, issued by the New York Zoological Society for a Hudsonian Curlew that he captured at the foot of Cliff St., Rosebank, in August, 1928. The bird is a rare transient here. Mr. Stroud reports that it is still living in the N. Y. Zoological Gardens, Bronx Park. At the May, 1932, meeting of the Staten Island Nature Club, Mr. Howard H. Cleaves reported the recent occurrence of one of these birds on the marshes near Pleasant Plains.

Mrs. A. A. Rottmann showed an apple she had picked from a tree at Princes Bay. It had a hole in its side, apparently made by a starling, while the interior was further removed by bees.

Mr. John Rader reported on the bed of magnetic sand below the bluff near Wolfe's Pond.

Mr. Joseph F. Burke showed under the microscope two colorful mineral specimens, one of quartz over chrysocolla, from Transvaal—a fine blue color—and the other of quartz tinted by cinnabar, from California—a fine pink.

Mr. A. C. Henshaw proposed that a letter of condolence be sent to the relatives of our member, Mr. B. R. Abbott, who died recently. This was approved and the secretary requested to send such a letter.

On November 18, 1932, Dovekies were found on Staten Island, and their occurrence on the coast was widely noticed in the newspapers. Mr. Carol Stryker gave the following list of 30 Dovekies found on the Island. Vincent Kevella described over the telephone about 10 o'clock Saturday morning, November 19, a bird found at Tottenville, and later another bird from Ward's Point, Tottenville.

Sylvester Lynch, on November 19, brought a living specimen, collected at Mariner's Harbor, to the Museum.

Andrew Zimmer, game protector, brought a Dovekie to the Museum on November 19, and reported others at Greenridge on same date.

Dr. Charles W. Goodwin, on November 19, telephoned to Mr. Davis that he had a living Dovekie.

John Piltornegele, of Public School 48, found one in the woods at Concord, November 20.

On the same date one from Edward Briar, Public School 12, Concord. Two brought to Museum on November 20 by boys from Chelsea. Live bird and one dead one at Oakwood, November 20, Carol Stryker. Mrs. J. Wallcott telephoned to the Museum that three living Dovekies were in a small salt-water pond close to the shore at Great Kills. They arrived November 19 and the last of them disappeared about 11 a. m., November 25. On November 20, four Dovekies were reported; one found by a boy near Great Kills; one collected by Max Goldberger, of New Dorp, who mounted his specimen, and two brought to the Museum by Wm. O. Decker. On November 21, one was found at Port Richmond by Walter Moris and recorded in the *Advance* under the caption of "Baby Gull." Robert Thompson found one on Richmond Hill, November 22. November 24, two found at New Dorp by Allen Cruckshank and Carol Stryker. Three Dovekies were reported in a small body of water near St. George by George Meserole, November 25, and on the same date a skull was found on Crooke's Island, Great Kills, by Carol Stryker. Also one was brought to the Tottenville High School Biology Club by Miss Rose Delaney, and fishermen reported having seen a flock on the morning of November 20, of between seventy-five and one hundred birds off Great Kills; and later at the same place a flock of about 20 birds. Six birds were seen in New York Bay. In Connecticut a specimen was collected on November 20 at Danbury, by Mr. Elwood Logan.

Mrs. Juliet B. Trench read a paper on "Our Neighbors," being a record of observations made in the Benham-Seaman place, 651 Arthur Kill Road, considered by many the largest and best private sanctuary for wild life on Staten Island. This paper is printed elsewhere in these PROCEEDINGS.

The meeting of December 22, 1932, was held in the Art Gallery of the Public Museum.

Owing to the illness of the secretary, Mr. Stecher, Mr. W. Lynn McCracken was asked to serve for the evening.

An interesting account of an early expedition to this country by Norwegians and Swedes, antedating the re-discovery of America by Columbus, was read by Mr. Charles W. Leng from the Geographical Review of July, 1932, published by The American Geographical Society of New York. This Study in Pre-Columbian American History by Hjalmar R. Holland, concerns The Kensington Stone, which was found in 1898 by a farmer in Western Minnesota. Mr. Holland now finds the date of the stone to be 1362. An account, picture and translation of the inscription on the stone is also to be found in Science News Letter for November 12, 1932.

Mr. Wm. T. Davis called attention to several newspaper items of recent publication, including several from the *Herald-Tribune*, relative to the disappearing eel grass along our shores. The newspapers recorded the fact that the Dovekies reached the New England coast about November 10, whereas they were not found on Staten Island until November 18, 1932. December 3rd with a temperature of 61 degrees, and December 4th with 62 degrees, were the warmest days of that date that have thus far been recorded for this locality. This warm weather followed the very cold November 27, 1932, when much ice formed.

Mr. Davis stated that the nest of *Lasius claviger* ants at 146 Stuyvesant Place, referred to in the minutes of the Nature Club, November 22, 1930, as swarming, took advantage of the warm weather of December 3, 1932, to again send forth many hundred winged individuals of both sexes. Before taking flight the ants crawled up the side of the house for about 30 feet. Most nests of *Lasius* ants swarm earlier in the season, and it was pointed out that in some years no really warm days suitable for swarming occur as late as November 22nd or December 3rd. It was suggested that under such circumstances the colony might be greatly inconvenienced by being forced to keep the winged individuals in the nest. If the nest of ants at 146 Stuyvesant Place swarmed in 1931, the fact was not observed. Specimens of *Lasius* were exhibited.

Mr. Davis showed specimens of the many spined blackberry growing wild near Adelaide Ave., Oakwood, and stated that it had been submitted to Prof. L. H. Bailey by Dr. Small, of the New York Botanical Garden, but that more material was necessary before an exact determination could be made. He also showed photographs of two old vines of English ivy, *Hedera helix* growing on tree trunks on Coursen Place, Rosebank, and remarkable for their size and the amount of berries that they bear. On the trunk of a tree the interlaced stems of this ivy show to greater advantage, than they do, for instance, on the flat walls of St. Andrew's Church at Richmond or St. John's Church at Rosebank, where there are also some aged vines.

As a matter of record it was stated that a Brown Thrasher was seen on December 22, 1932, in Bronx Park near the cages of the Polar bears. It was on the walk and was examined with a field glass, which was not necessary for identification as the bird was tame and allowed a close approach.

Mr. Davis informed the Nature Club of the recent efforts of the Staten Island Bird Club in co-operation with the Audubon Society of 1775 Broadway to establish a Bird Sanctuary in one of the Staten Island Natural Parks. Mr. Davis's remarks and those of Dr. Chapin who had been in communication with Mr. Ernest G. Holt, were greeted with hearty applause. Attention was called to an editorial on the subject of setting aside the Bird Sanctuary, in the *Advance* published on the same day of the meeting, December 22nd.

Mr. George B. Wilmott exhibited a dovekie prepared by Dr. Chapin. The dovekie was found on the Island in November. Mr. Wilmott also exhibited a very lively salamander—Hellbender—that bites and fights whenever there is a chance, and was with difficulty kept in the small exhibition aquarium during the evening.

Mrs. Stryker reported from a letter received from Mrs. Edna Snow that she had seen dovekies as far south as Daytona, Florida.

Mr. Carol Stryker reported seeing a robin in the Moravian Cemetery recently, and Capt. Thomas I. Miller that on December 19 he had seen a hermit thrush at Annadale.

Mr. Howard H. Cleaves told of his recent trip to Willoughby, Ohio, where he visited Mr. and Mrs. C. M. Shipman, who at one time resided on the Arthur Kill road. They own a plot of ground 100 x 500 feet where are growing about 500 species of plants selected and replanted from various places. He mentioned having received two red squirrels that have interesting habits and invited the club members to come to his home to examine them in their cage. Reporting for Mrs. Cleaves, he said that a Forsythia bush was in bloom last November, due to the warm spell at that time.

Mr. W. S. Hinegartner, with the aid of a lantern, gave a most interesting talk, illustrating color photography with pictures of his own taking. The pictures were mostly of wild flowers; many of them being orchids. At the rear of the room was a device for viewing more closely each of the color slides and which showed the more delicate color tones to very good advantage.

As in previous years the "Uncle Toby" books prepared and illustrated by Adolph W. Callisen were on exhibition. These books have been received each year with much interest and pleasure since the December, 1923, meeting of the Nature Club, and are being carefully preserved. The "Tale of Staten Island" of this year was entitled "Symonides Courtship," and gave extracts from his journal during June, 1771.

The meeting of January 28, 1933, was held in the Public Museum.

Mr. Charles W. Leng reported on what is believed to be the oldest inscribed stone on Staten Island found some years ago in the church yard of the Dutch Reformed Church at Port Richmond, and now loaned to the Staten Island Institute. It will be on exhibition. The inscription is in Dutch and is interpreted to mean that in the year 1715 H. K. & G. K. (Hendrick Kruser and Garret Kruser) aided in the building of the Dutch Church. Its ecclesiastical character is shown by the last line, which means "For the service of the Lord."

Mr. John Rader reported finding a dead dovekie among briars. It was in a very poor condition.

Mr. Carol Stryker reported that on January 14 he and Mr. A. C. Henshaw had seen a flock of about 40 robins in the Moravian Cemetery, and on January 21 at Chelsea a flock of twenty-seven.

The first song sparrow was heard singing at West New Brighton, January 18. Mr. Marc C. Rich had found a Brunswick Murre head on the Oakwood meadows, and through Dr. James P. Chapin, of the American Museum, the bird had been made into a study skin for the Staten Island Institute. This is thought to be the first specimen picked up on the Island, but one was seen in New York Bay in December, 1908, by Dr. James P. Chapin.

Mr. Stryker further stated that there was a very large muskrat house over four feet high in the swamp and one-time site of Ketchum Mill-pond at Richmond and that he had found a meadow island between Richmond Creek and the Arthur Kill road where there were some Indian implements. He exhibited a hammer stone from that site.

Captain Thomas I. Miller reported two blue birds seen on January 5 at Annadale.

Mr. Wm. T. Davis stated that the death of our fellow member, Mr. Ernest Beaumont, on January 2, 1933, should be recorded. He attended for many years most of our meetings and the walks of the Bird Club. The Staten Island Institute and the Historical Society had no better friend.

Mr. Davis read from the *New York Times* of December 28, 1932, the conclusions reached from measurements made by the United States Coast and Geodetic Survey that at Fort Hamilton in Brooklyn the rate of subsidence of land with respect to sea level is between four and six inches per century "with five inches a century the most likely figure."

A copy of "The Birds of the Belgian Congo," Part I, by Dr. James P. Chapin, our fellow member, was shown. It is published by the American Museum of Natural History; is a book of 756 pages and contains many maps and illustrations. The present volume (Part I) contains a general survey of the country and its bird life, as well as a systematic list of species and races, with notes on distribution, habits and food. Much of this volume is not only of interest to the ornithologist, but to the general naturalist as well.

Mr. Davis showed his collection of *Cecropia* cocoons opened by woodpeckers, the contents being removed by the bird through a hole drilled near the central part of each cocoon. Recently while looking for a site for the proposed Bird Sanctuary with

Mr. Ernest G. Holt, of the National Association of Audubon Societies, a fine example of a cocoon opened by a woodpecker in the usual way was collected near Richmond.

Mr. Davis also showed a male and female Mantis sent to him by Mr. Frank Morton Jones, of Wilmington, Delaware, who has recorded in *Entomological News* for January, 1933, the fact that *Tenodera angustipennis* Saussure, which resembles *Tenodera sinensis*, has apparently been established for some years on the Delaware-Maryland peninsula. The egg-mass of *angustipennis* is not large and almost globular as in *sinensis*, but has a more oblong and flattened form, as in our native *carolina*. Both of the introduced insects are natives of Asia.

Mr. Carlton Beil showed specimens and reported on the Fairy Shrimp that had been first observed by Mrs. Carol Stryker, January 2, 1933, at Bethel, Connecticut, near the Logan farm. Later a number of these beautiful crustaceans were collected from beneath the ice of the small wood-land pond. Mr. Beil stated that the eggs of the shrimp are laid in the spring, will survive the drying up of the small ponds where they are usually laid, and may even be blown about as dust. In the fall, with the coming of the rains and the re-filling of the pools, the eggs hatch and the shrimp gradually reach maturity, swimming about freely in the cold water under the ice, thus reversing the more usual order of invertebrates that live in larger bodies of water, and mature in the summer. Fairy shrimp are reported in the *Proceedings* of the Natural Science Association of Staten Island as far back as 1888, having been collected near the Moravian Cemetery, and other parts of the Island.

Mr. Joseph F. Burke, in a talk on the Minerals of Staten Island, outlined briefly the geology of the latter, including the serpentine ridge, the Triassic formation which includes the diabase (trap rock) and the sandstone, the outcroppings of granite (pegmatite) at Tompkinsville and tremolite at Brighton Point both now covered up, the Cretaceous clays and the Quaternary sands. He discussed early collecting on the Island, dating back over one hundred years, mentioning a number of the published records of Staten Island minerals starting with the first number of the *American Journal of Science* in 1818. In the following order, he described the minerals of the serpentine, the granite and tremolite

intercroppings, the trap rock, the Cretaceous clays and the beach sands, the last mentioned including Zircon crystals discovered in and collected by Mr. John Rader at Wolfe's Pond Beach. Apophyllite crystals in association with Stilbite crystals, collected by Capt. Thomas I. Miller in July, 1900, at Bennett's Quarry were shown. The Zircon and Apophyllite constitute new records for Staten Island. Eight microscopes were used to display specimens containing microscopic crystals or thin sections of rock. Capt. Miller showed a section of the trap rock and Mr. George B. Wilcott a section, prepared by himself, of serpentine, both by polarized light. Messrs. George H. Needham and John A. Grenzign furnished two of the six Greenough binoculars used to show the crystal mounts. Mr. George E. Ashby showed a splendid suite of minerals collected by him on the Island a number of years ago giving a short description of his collecting trips with the New York Mineralogical Club to the limonite localities to which Capt. Miller added a few remarks.

The meeting of February 25, 1933, was held in the Public Museum.

Mr. Charles W. Leng presented the following item taken from the *N. Y. Times* of November 17, 1889: "While gunning in the woods at Concord yesterday Mr. George Van Pelt shot and killed a large mink weighing thirteen and a half pounds and over three feet in length."

He also reported snowdrops in flower in his garden on February 21.

Dr. James P. Chapin stated that the Brunswick Murre mentioned at the last meeting as having been found dead on the Oakwood meadows by Mr. Rich, was prepared for the Institute collection by Mr. Thomas Gittions, who discovered while so engaged a number of shot in the bird. It was suggested that the bird may have been killed off shore and later floated to the beach.

Dr. Chapin showed a number of photographs of the recently completed African Bird Group in the American Museum of Natural History, and explained many of the interesting features of the exhibit.

Mr. Wm. T. Davis showed the two volumes of Ernest Thompson Seton's *Life Histories of Northern Animals*, 1909, lately

acquired; also the 1932 revised edition of Dr. Chapman's *Handbook of Birds of Eastern North America*. *The Birds of Prey for Boy Scouts*, 1932, by George E. Hix, was also shown. It is a useful pamphlet of 32 pages, based largely on the personal experience of the author.

Mr. Davis called attention to the efforts of the Staten Island Conservation Committee to save, as far as possible, some of the natural conditions of our Island. The second meeting of the committee was held on February 20, in the Parish Hall of St. Andrew's Church at Richmond and was well attended.

The first flowering Coltsfoot plant was found on the filled-in area at Tompkinsville on February 20; by February 22 there were five flowers on the same plant. Mrs. Nesslinger had found Coltsfoot flowers a few days previously near the Fingerboard Road. Last year there were many Coltsfoot flowers in January.

Mr. Loring McMillen and Mr. Howard R. Hill lately reported that there was much "Jasperoid Limonite" along the edge of the salt meadow near Richmond Avenue. Upon further investigation it was found that the walls along what was once called the Morgan Road or the Meadow Road, near the last house on the road to the south of the one time John Tysen farm, were largely composed of "Jasperoid Limonite," so much so that they appeared entirely red in color. There were also several large masses of the same rock protruding from the salt meadow. It is supposed that the numerous boulders of "Jasperoid Limonite" found on Richmond Hill, and all the way to Great Kills, were removed by the Glacier from the site above mentioned. (See "A Conspicuous Staten Island Boulder Trail," by Arthur Hollick, Pro. Staten Island Assn. Arts and Sciences, 1913.)

Mr. Davis further showed some beautifully colored ribbed Mussels (*Modiolus demissus*) which had been collected in the salt meadow near Lake's Island. The shells of this species, that grow in the exposed peat beds at Oakwood, are usually not as delicately colored as the specimens from the banks of the inland creeks.

Nearly every label in one of the drawers of the shell collection in the attic of the Museum had been removed from among the specimens by a house mouse. They had been used in making a nest in an empty box. Thirteen of the labels were only partly destroyed, while others were reduced to small bits to provide a finer and softer material for the center of the nest.

Mr. Charles Coleman Stoddard had sent a musket ball and a gun-flint that he had recently found near his home at Richmond, Staten Island. They no doubt date to the time of the American Revolution, when Richmond Village and the old fort on the hill, were occupied by the British.

Dr. Frank Overton had sent a great number of Springtails found January 24, 1933, near Patchogue, Long Island, where the ground was so thickly covered by them in one place that it formed a well defined dark area of considerable size in a photograph taken at the time. This photograph and the insects had been placed in a Riker mount and formed an interesting exhibit.

In regard to Springtails, Mr. Charles W. Leng referred to their appearance in great numbers in a house at Four Corners. The owner came to the Museum to enquire how he might get rid of them. A fumigating firm had been employed to rid the house of the "fleas," but without result, for they reappeared shortly after. There was a moist depression near the house from whence the Springtails had come, and after this ground was artificially dried by burning some brush on the place the Springtails disappeared.

Mr. John Rader exhibited a number of specimens of local minerals and reported the arrival of a kingfisher.

Mr. George B. Wilmott reported a flock of about thirty robins at Rossville and showed a number of Indian implements found by him at Tottenville and near Benedict's Creek.

Mr. Carlton Beil exhibited a whale's bone found by the Woodcrafters at Jones Beach, Long Island on February 12, 1933.

Mr. Carol Stryker reported a short-eared owl hovering over the creek at Oakwood Beach. Later the owl was seen catching killies and devouring them. He also reported seeing eight blue birds on February 18 near Richmond.

The meeting of March 25, 1933, was held in the Public Museum.

Mr. Leng announced an exhibit of Daguerreotypes in progress in the Museum, of particular interest to Staten Islanders because the first photographic human portrait was made by Dr. John W. Draper, who lived for a time on the Island. An illustration of this portrait, and one of Dr. Draper, loaned by Captain Miller, form part of the exhibit.

Mr. Leng also reported Crocus in bloom in his and other gardens; and a small tree, *Cornus mas*, bearing yellow blossoms, in the garden at the corner of Henderson and Clinton Avenue. This tree is sometimes called Cornelian Cherry.

At the February meeting the early flowering Coltsfoot was mentioned, since which time Mrs. Carolyn B. Lyman and her son have visited the plants, resulting in the following poem by Mrs. Lyman:

COLTSFOOT

'Tis time to wake, the old Sun said
To Coltsfoot, still asleep,
There's lots to do to tidy up
If we our record keep.

So Coltsfoot raised its pretty head
And with a cheery smile,
Said, I will surely do my part
In just the shortest while.

I'll cover first the barren earth
That Winter left behind
When he went hustling to the North
And whistling with the wind.

Where he spread robes of ermine white
I'll spread a cloth of gold;
My flowers I'll give to every child,
All little hands to hold.

Oh! I am glad to wake again,
The first flower of the spring;
To welcome back the birds to mate
Again to hear them sing.

The dandelions soon will come,
To smile the summer's day;
But I'll have heard the mating songs
And gone my silent way.

MARCH 11, 1933.

Mr. John Rader exhibited several Indian implements, including a rather roughly made Bannerstone found at Hylan Boulevard and Fingerboard Road. This is to be placed on permanent exhibition by the Institute in the case of Indian implements from Staten Island. In looking over the grounds once included in the

John J. Crooke place at Great Kills, Mr. Rader had found a silver spoon marked "J. J. C." and dated 1861.

Mr. Carlton Beil in company of Robert McCulloch on March 25, 1933, visited the ponds back of the Moravian Cemetery, where they collected a spotted salamander also a cluster of eggs. These were identified by Mr. Davis as belonging to the same species of salamander.

Mr. Charles L. Ragot showed four *Sarcophaga* flies that had hatched from larvae of two spotted salamanders. He thought that the salamanders had been parasitized while living.

Mr. Elwood Logan reported seeing an Iceland Gull from the ferry-boat on March 15.

Mrs. T. I. Miller reported hearing Spring Peepers at Annadale, March 17.

Mr. Hans L. Stecher reported finding a great many shells of *Polygyra albolabris* about a wall and the old foundation stones on the Jones place near Public School 17. There were many hundreds of shells, some burned and some apparently eaten by mice. After a long search a single living specimen was found. Other species found at the same locality were two *Vitrea cellaria* Muller, and one specimen of *Helicodiscus lineatus* Say.

Mr. Wm. T. Davis called attention to the death of Dr. Arthur Hollick, March 11, 1933, aged 76 years. He was one of the founders in 1881 of the Natural Science Association of Staten Island, later the Staten Island Inst. of Arts and Sciences. For many years he was secretary, and also Director of the Institute from January 1, 1914, to June 1, 1919. Dr. Hollick took a deep interest in the exhibits of the Institute, and it was he who collected and arranged most of the specimens that form the comprehensive collection illustrating the geology of the Island.

Mr. Howard R. Bayne, who was President of the Institute for 28 years, from November, 1902, to May, 1930, died on March 13, 1933 in his 82nd year. It was through his efforts that the Institute obtained an appropriation from the City of New York.

Mr. Davis stated that according to the records of the Weather Bureau that the winter just past, next to that of 1931-32, was the warmest on record. The highest temperature was 63° on February 7, and the lowest a few days later, namely, February 10, with a temperature of 10 degrees.

A copy of "A Teaching Guide of the Trees and Shrubs of Greater New York," by Dr. Arthur H. Graves and Hester M. Rusk, both of the Brooklyn Botanic Garden, was shown. It has keys and descriptions of the species mentioned, together with a glossary and index. Staten Island is often referred to.

A letter was read from Mr. Roy Latham, of Orient, Long Island, in which he stated under date of March 21, that: "Sixteen Canada Geese were feeding on the young green rye on the farm today. Not so many as we had last winter. A mocking-bird wintering in Orient also. Nearly every year we have a single bird of that species spending the winter."

Mr. Davis stated that on March 4 he and Mr. Loring McMillen had observed about 100 Herring Gulls on Britton's Pond in the Clove Valley near the Turnpike. While the gulls have been visiting the Silver Lake reservoir since its construction, this is the first winter that they have appeared at Britton's Pond. James Farley has been employed since 1917 in trying to keep the gulls off the the waters of the reservoir, and often shoots at them. Possibly they will now be allowed to visit the pond and duck under in the fresh water, as they delight in doing, without being molested.

Mr. Davis showed two Mantis egg-masses sent to him by Mr. Carl Ilg, of New Brunswick, New Jersey, who had collected them at Glassboro, Gloucester County, N. J. They apparently were produced by *Tenodera angustipennis*, the Asiatic species reported in *Entomological News* for January, 1933, by Mr. Frank M. Jones, as introduced into Delaware and Maryland. From the number of egg-masses found it would appear to have been in Gloucester County, New Jersey, for some time (see Proceedings of the Nature Club for January 28, 1933).

Mr. Charles Coleman Stoddard read an essay entitled "As a Poet looks on Nature," in which he dwelt upon the thought that the reaction between the outer object and the inner complex of emotions, associations, and feelings, distinguishes the poetical element in us. It is the peculiar province of the poet, endowed with a greater gift of expression, to fix for us these universal, though often fleeting, emotions awakened by Nature. The poet need not know the taxonomic or morphological details of the objects by which his emotions are stirred, nor do their utilitarian aspects necessarily concern him. He does need, however, sufficient power

of accurate observation to guard him against the inconsistencies which might otherwise mar his poem.

After giving instances of such inconsistencies by which fall flowers are made to bloom in spring, Mr. Stoddard spoke of the unnecessary suppression by naturalists, in their zeal for scientific detail, of the human interest of their subjects. "I ask of the naturalist," said Mr. Stoddard, "when it falls to his lot to lay his truths before us, that he present first those things that will awaken the liveliest imagination and interest in his subject: its romance, its poetry."

Mr. Stoddard closed by reading one of his own poems, with these thoughts as its theme.

The meeting of April 22, 1933, was held in the Public Museum.

Mr. Charles W. Leng showed a copy of the recently issued directory for Staten Island.

Mr. John Rader exhibited several arrow-heads found on the Island, and a very long root bearing many tubers of the bean, *Apios tuberosa*, from New Springville.

Mr. Wm. T. Davis showed two boxes of Luna moths collected in the field and arranged chronologically. A number of them had been found on Staten Island. The collection plainly showed that the Red Margined Luna (*Tropaea luna* form *rubromarginata* Davis) described in *Psyche*, June, 1912, was a well marked seasonal form making its appearance on Staten Island and elsewhere in the last days of April as well as in May.

He also showed the types of the following insects which had been discovered by him at Lakehurst, New Jersey, in the Pine Barrens: *Neoclytus jouteli*, a long-horned beetle, and *Neococephalus caudellianus*, *Orchelimum erythrocephalum* and *Orchelimum pulchellum*, long-horned grasshoppers.

Lately there has been much interest in white ants or Termites, of which we have one species on Staten Island, namely, *T. flavipes* Kollar. Specimens of the winged males and females that have been appearing in February and March under artificial conditions both on Long Island and Staten Island were exhibited, together with workers and soldiers from various nests. Some of the work of the insects was shown, including a lath eaten by them, taken from behind a wash tub at 146 Stuyvesant Place, Staten

Island, in December, 1907. Out of doors the winged *Termites* usually appear in May and June.

Mr. Paul Kuhn referred to the article in the *New York Times* of April 21, 1933, "Last Heath Hen Believed Dead," as something of more than passing interest to the naturalist.

Mr. Howard H. Cleaves, who had been to Martha's Vineyard and was familiar with the history of this bird gave a short account of it.

Mrs. T. I. Miller showed a photograph of a practical bird-bath that could be constructed with cement at a cost of about thirty cents.

Mr. Robert McCulloch exhibited some eggs of *Amblystoma punctatum*, calling attention to the green algae occurring in the jelly-like mass.

Mr. Carol Stryker delivered a lecture on the Pine Barrens of New Jersey, showing many fine lantern slides of both the plant and animal life of the region.

The meeting of May 26, 1933, was held in the Public Museum.

Mr. John Rader reported that many mourning doves had been attracted to a locality along the Arthur Kill Road by the spreading of peanuts. He also reported that a farmer at Woodrow had killed two red-shouldered hawks.

Dr. Frank A. Strauss reported the sudden appearance of great numbers of dragonflies near his home on Hamilton Avenue. At 6 p. m. some were flying high and going in a southwesterly direction. At about 8 p. m. at dusk, many were resting on the clothes line and the nearby shrubs. He had distinguished two species; the one he brought to the meeting was *Pachydiplax longipennis*.

A similar report on the dragonflies was given by Mr. Joseph F. Burke, with two additional species identified by him, *Libellula semifasciata*, and the less common, *Libellula vibrans*.*

Mrs. H. M. Trench gave an account of a chipmunk and its four young that live about her home, 651 Arthur Kill Road, and quite regularly visit her bird-feeding station.

Dr. Wm. H. Wiegmann presented a number of very interesting records. He reported a ring-necked snake found dead on Hyman

* This species appeared on the Island in 1929, but has not been reported since that year. See records of the meeting of the Nature Club for June 22, 1929.

Boulevard, September 10, 1932; a duck hawk seen at Oakwood Beach, and a turkey vulture at the same place. This last on May 15, 1933. Dr. Wiegmann presented a herbarium specimen of the rare grass, *Erianthus divaricatus* (L.) Hitch. from Palisades at Fort Lee, N. J., September 17, 1916. (See Taylor, Flora Vicinity of New York, p. 97.) Known also from Hammonton, New Jersey.

Mr. Carol Stryker reported finding an adult weasel on the Arthur Kill Road, April 15, 1933. It had been killed probably by an automobile. Another weasel had been seen alive in one of his rabbit cages at Green Ridge by Mr. Harrison Johnson, May 27, 1933, and a young specimen was dug up by a dog in an orchard on South Avenue, May 13, 1933, as reported by Mr. Elwood Logan.

The following bird records were presented by Mr. Stryker: Veery in song, May 15, Olive Backed Thrush in song, May 20, 1933, near Oakwood; Wood-duck, Flagg's Pond, May 16, 1933, and a Turkey Vulture at the same locality and date.

Mr. Wm. T. Davis called attention to the Solar Halo, seen from the Museum at mid-day, May 5th, and described in the evening papers, and in the *New York Times* of May 6 under the heading: "Solar Halo Gives City a Rare Sight." He showed a herbarium specimen of a flowering Mandrake plant from Sandy Brook, the chief locality for the species on Staten Island, also a specimen of the Rose Acacia (*Robinia hispida*) that has taken possession of a sandy area near Bloomingdale Road, and when in blossom affords one of the most beautiful floral displays to be seen on the Island. He stated that on May 18, he and Mr. Ernest Shoemaker had photographed the large mound nest of the ant, *Formica exsectoides*, near Sandy Brook, discovered some time ago by Mr. Howard H. Cleaves. The nest is about 10 feet by 9 feet and well populated. Another large nest of this ant is in the woods near Annadale and is about 7 feet in diameter. It was photographed May 15, 1932.

Mr. Shoemaker had found a broken Indian axe along Sandy Brook and Mr. Davis showed two arrow points found near the Rose Acacia locality. Mr. Davis further stated that on May 21 he, Mr. and Mrs. Loring McMillen and Mr. and Mrs. Howard R. Hill had rowed over to "The Island of Meadow," also known as "Burnt Island" and "Dead Man's Island." It lies at the mouth

of Fresh Kill, and in places is only a few hundred feet from the mainland of Staten Island. While separated from his companions in the high growing *Phragmites* grass, he had found the nest of a Black duck containing eleven eggs of which he showed a photograph. Much sand, oyster shells, etc., have been pumped from the surrounding waters and deposited on the Island, so that now there are quite a number of different species of plants growing there. There are many small willows of several species; three species of poplars, white birch, *Ailanthus*, and common locust to be found. Two of the low trees bore crows' nests in their branches, of which photographs were also shown.

Mr. Hans L. Stecher reported that occasionally while cleaning the water trays for the snakes he had found objects of slender, translucent skin-like appearance that he believed were really the shed skins of the tongues of the snakes. There are usually two parts found, and if put together resemble in appearance the tongue of the living snake. He had not seen any reference to this in literature, but presumed that the fact is known. It would seem almost a necessity that snakes cast the outer surface of their tongue from time to time, since the organ must remain sensitive in order to function properly. Specimens of these cast skins preserved in formalin were exhibited.

Mr. Carlton Beil talked on the Sounds of Frogs and Toads and their Imitation, and succeeded well in reproducing many of the notes of our native Batrachians. He had on exhibition specimens of the American Toad, Fowler's Toad, Tree frog, Swamp Tree-frog, Spring Peeper, Carpenter frog, Green frog, Bull frog, etc., collected either on Staten Island or in the Pine Barrens of New Jersey.

My Neighbors

JULIET B. TRENCH

Standing one evening in May, in my lovely garden, surrounded by our glorious trees on one side, and miles of beautiful salt meadow on the other, while the air around us was vibrant with bird music, a young woman said to me, "Yes, it's nice, but aren't you terribly lonely? I can't see a house anywhere, so you have no neighbors." My answer was, "O yes we have, hear them singing all around us." Her smile had the quality of pity in it, as for one who could not realize how much she missed by not living in an apartment on Washington Heights.

Our little neighbors who wear feathers and fur are very dear to us, and furnish us with endless entertainment sometimes amusing, but alas, too often our hearts are wrung by the tragedies that seem to make up such a large part of their little lives, and much of our time is spent in trying to make them happy and comfortable. During the past year we have fed them 400 pounds of oats and 120 pounds of scratch feed, and there is always water for them. It is kept from freezing in winter by the use of a special kind of tank with a lamp under it, and we have spent eleven years in trying to stop the morons who call themselves sportsmen from shooting them; in bitter cold and killing heat we have been on the job, and at last we can see a marvelous improvement. There was very little shooting this fall, almost none.

In February out of the South, one bright morning, came the soul-stirring spring song of the bluebirds, and straight to the little house given us by a good friend, flew three of them, evidently a case of the triangle that we humans talk so much about. One went in and stayed quite a time, while the two stood on the roof and waited; it came out and they all flew away. Next day only two came, having disposed of number three, apparently, and kept coming for about two weeks, and then decided to look elsewhere for a home, much to our regret, as they had not lived near us for several years.

The mourning doves came back to us in February, too, and started their usual battles. Several mornings I heard a loud noise

* Read at the meeting of the Nature Club, November 26, 1932.

like slapping one hand against the other, and on going to the window to investigate I discovered that it was made by these belligerent little things fighting each other away from the feeding board. The ground there is always strewn with their soft gray feathers, and they seem to keep at it all summer. They had a nest right near the feeding board in July, apparently a second one, and as soon as the young were out of the nest, the parents seemed to fairly hate them, and beat them around terribly. They are the clumsiest of bird babies, and seem to have no powers of steering themselves at all. One day one of my family came upon one suddenly, and the poor little thing was so frightened that he flew against the woodhouse with such force that he was knocked unconscious for a few minutes. The robins are delightful neighbors, with their beautiful songs, the first to sing in the morning and the last at night, and they are sociable too, building their homes close to ours. Unfortunate little Mrs. Lilac Bush Robin got her foot twisted up in a thread while building her nest, and I had to cut it loose for her. They were frightened by this, and deserted the nest, and went to a nest that a pair of thrushes had started and left, and finished it up and raised a family in it. Late in the summer the bird that had been caught in the thread and her mate went back to the original nest, lined it with mud, and then for some reason left it again. I am shocked to learn that these robin people are afflicted with lice, and one family of young was killed by them. We thought a blue jay had taken them, but I found them dead in the nest, which was alive with the disgusting things. I am wondering how many poor little birds get caught by the metal bands that some people put in their legs, the turned over ends are always coming loose, and we gave up using them on chickens years ago, after having two beautiful young Rhode Island Reds caught by the legs and their hips dislocated.

The Catbirds are the tamest of our birds, and seem to understand our motives better. Whenever a blue jay would try to come near the nest, they would scream wildly, and I would always go out and scare it away by clapping my hands, which didn't frighten the catbirds at all, and very soon they learned to come and call near the windows, as if they knew that I would help them. One morning, just at dawn, they came under my bedroom window, and called piteously, after going all round the house, and

I leaned out and clapped my hands, but it was too late, the vile blue jay had taken one baby and the other two were out of the nest. One of them grew up, but I think the other was killed by rain. The blue jays are the bird underworld, thieves, house breakers and murderers, and their looks are the only good things about them, the same as in some humans. In April, about the middle, I think, we discovered that we had two barn owls, instead of only the one that had lived so long in the ruins of our old home, and our hopes of having them nest rose high, but we do not know whether number two owl was a child of number one, or its mate, as no more appeared, though they stayed there all summer. One evening in May I went to look for them while it was still light enough to see them. As I stepped up by the wall a blood-curdling shriek came from inside, and in this rather spooky place nearly scared me to death, and an owl came jumping down to a low branch within twenty feet of me. We had heard this noise before, but couldn't decide who made it. Sometimes I would hear the robins, redwinged blackbirds, and catbirds who lived very near each other, making a terrible fuss, as if something were very wrong with their affairs, and would discover that one of the owls had come out early, and was sitting in a tree near their nests, so I would go over and shoo him home to the ruins to restore peace. In June one evening we saw both owls flying round in circles making a very sweet high pitched chirping, quite different from their discordant scream, and another time they sat in our old fireplace in the ruins, rubbing their beaks together and making soft little sounds like tiny bells.

We had a very unusual family living near us this past summer, Mr. and Mrs. Little Green Heron, who built a funny nest in an ash tree near the ruins. The two babies seemed to have a hard time to stay in, or rather on it; it was too small for them in a week. They were weird looking creatures, with their long necks, and no feathers except little tufts here and there, and looked so queer climbing along the branches, sometimes even upside down, with their beaks hooked over, and holding with their claws, at other times walking along them hand over hand, or perhaps I should say foot over foot. We did not see as many young pheasants this year as usual, perhaps because there was a poor dropped cat here, but—"he's sleeping now in the valley, and the mocking

bird is singing o'er his grave." I have the greatest amount of pity for these unfortunates, who are raised from kittens in luxury, and then one day thrown out of a car in a strange place, to starve, with the idea so commonly expressed that an animal can always find its living, so to kill them is a kindness to them and to the birds as well.

In one pheasant family there was a tragedy apparently, for a tiny baby ran around all alone, crying, all one morning, and afterward came to the feeding places each day, but always alone. Whether the mother was killed, or simply flew off, and left him, as they do when frightened, and he never found her, we don't know. But in spite of cold and rain Lone Baby, the pathetic mite, is now grown up, and getting his beautiful feathers and long tail, and I often see him in the early morning back of the house, but he is afraid of me, though I have tried in every way to gain his confidence ever since we first saw him. September came, and as I walked down an old brick walk each morning to feed the birds, there was a glory of pink petunias and lavender day-lilies along one side, and at the end a peach tree that I raised from a pit, loaded as they all were this year with beautiful red cheeked fruit. What a delight to pick and eat some, wet with dew and icy cold in the chilly air.

The chewinks came very early, with the sparrows to get their breakfast, but the mourning doves, brown thrashers and blue jays as well as pheasants have eaten theirs, and gone before them, as well as some of the grey squirrels for a first meal. They come back several times during the day. There are often amusing fights between the pheasants and squirrels as to which shall have the grain on the feeding board. Sometimes the squirrels get chased up the tree, and again it is the pheasant that is scared off by the squirrels jumping down at him. On the cold mornings the catbirds came quite late for their bread crumbs, but after the grapes were ripe they spent most of their time in the arbor.

Most of their relatives had gone, but a few still stayed, and one still is here on November 10th. A large flock of robins came in September. Some of them probably grew up here, but they seemed to have brought all their friends to this good place of many berries and fruits. They eat the rotten apples but not the good ones. Speaking of rotten apples reminds me how worried

we were over the hermit thrushes who looked so hungry, and we had nothing they would eat, bread crumbs, grain and bird-seed were put out in all the places that they frequented but they walked right over them all, still looking for something, and then one day I discovered a number of them back of the barn eating rotten apples of which there were a bushel or so, and our worry was over.

Of all our little neighbors who wear fur coats, the chipmunks are the tamest and most friendly. It is a strange thing that after the middle of September, like all one-handed farmers, they start planting oats. They seem to plant a little bunch of what they are carrying in their cheeks, and store away the rest. The planting season ends by the middle of October. Do they count on the crop being ready to eat when they come out of their holes in the spring, I wonder? It will not be in grain until May, just as that which men plant at that time will be. I simply can not have tufts of oats sticking up in my flower beds, so I shall carefully transplant them to a spot in the vegetable garden, so their labor shall not be in vain, and I hope the Porch step and the Backyard and the Stonewall Chipmunk families will all find them. We had a little tame gray squirrel, who came in the dining-room window every morning for her breakfast, but one night a terrible wind blew down the chimney of the ruin in which she had her nest, and she was killed. I must mention my cute little brown backed mouse, with its white breast, and big black eyes that lived in the wood-house near the bird food barrel, who came out for its share when it heard me open the cover, and the little baby garter snake that slept behind the cold frame under the brick, and when he grew bigger I fixed another brick to make him a bigger bedroom. I used to look at him curled up there every night, and quite missed him when he left.

Many beloved, and altogether delightful people come to see us, but much of the time we would be lonely if it were not for all the little creatures we have round us, and I have been thinking what it would be like if there were five houses as near to us as the five birds' nests, and in one a man was playing? an E flat saxaphone, in another people were squabbling, and a third had a radio, and a sympathetic tenor was yelling nasally about his "Wald Ourish

Rouse," and it makes me feel that my neighbors are very satisfactory after all.

Of the scientific facts concerning them all, I know little, but I have watched a mother bunny build her nest; seen the robin gather mud and line their nests with it, and the fish hawk flying over a haystack, and catching up claws full of hay without stopping in his flight, to make a lining for his big nest, and many wonderful things like these, that make up to us in fullest measure for our lack of human neighbors.



THE CRUSER-PELTON HOUSE,
1262 Richmond Terrace, West New Brighton, Staten Island.
From Photograph 1933.

The Cruser-Pelton House and its Owners

WM. T. DAVIS

In "Legends, Stories and Folklore of Old Staten Island, The North Shore," page 86, is the statement: "Charles E. Anthon in 1850 calls what we know as the Pelton House the De Groot House. Mr. Alfred De Groot stated in 1912 that this house was probably built by a De Groot, but that there was no certainty as to this. The stone portion was erected about 1730; that portion which looks to be frame, but which is stone, covered with wood, about 1776, and the brick about 1832." Then follows this statement, which we now know refers to the De Groot farm, the adjoining farm to the east of what is now called the Pelton place: "The will of Johannis DeGroot, made in 1786, devised the property to Garret DeGroot; it passed out of the DeGroot family in 1814. . . ."

In 1879 John J. Clute, the historian, under the pen name of "Senex," gave an account in the *Richmond County Sentinel* of a few of the old houses on the North Shore of our Island. He evidently believed—and we now know correctly—that the original Cruser homestead stood on the westerly side of the brook that ran down to the Cove. "Here," he states, "the Cruser* family lived for many years, and along the westerly side of the fence separating the properties of the Pelton estate and that of G. W. Campbell, a long race of the Crusers lie buried." In addition to the gravestones he mentions the family vault, which was visited by the writer in 1889.

Mr. Clute was in error, as we can easily show, in his statement that land on the easterly side of the above mentioned division fence was originally in the Cruser patent of 1677. It was really in the

* The name Cruser appears also in various deeds, documents and gravestone inscriptions as Cruzer, Cruse, Crouse, Croesen, Kruser, Kruse, Kruzer, Kreuzer, Kroese and Kroesen. John Staats' name appears in early documents as States and also Sttates, while the name of the Rev. Cornelius Van Santvoord occurs also as Van Stantvoord and Van Sandtvoord. He probably desired his name to be written Cornelis van Santvoort, for it so appears on the title page of his translation from the Latin of a Commentary to the Revelation of St. John by Johannes a Marck, 1736, a copy of which is in the library of the Staten Island Historical Society.

Peter Jansen patent, also of 1677. But he was correct, as far as known, in the following:

"In about forty years after the date of the patent, we find a man named John Staats owned a part of the land, and sold some of it to his son-in-law, the Rev. Cornelius Van Santvoord, the minister of the Dutch Church at Port Richmond, who built a house upon it, which may yet be seen as the old house on the Pelton estate. Van Santvoord came here from Holland in 1718, and left 1740 for Schenectady, where he died."

On the old map of 1780-83, known as Plan No. 31, recently discovered in the New York Public Library by Mr. Loring McMillen, the names of property owners and the location of houses are given. We find from this map that the farms of J. DeGroot, C. Kruse and C. Kruse, Jr., were at that time side by side at the Cove, each one running from the shore at the Kill van Kull back into the woods. It may well be, therefore, that some of the incidents reported to have taken place in one of these houses, really took place on an adjoining farm.

As examples of the prevailing statements regarding the Pelton and the Crusier houses to be found both in our local histories and the newspapers, we quote the following, which will also give some of the historical events said to have taken place in the old houses at the Cove.

In the "Historical Guide to the City of New York," published by *The City History Club of New York* in 1909, it is recorded of "The Kreuzer-Pelton House at the Cove. It was built by Rolph in 1722 and later came into the hands of the Kreuzers. It was the headquarters during the Revolution of Gen. Cortland Skinner, commandant of Skinner's 'American Loyalists,' and, for a time, Prince William, who later became King William IV, was entertained here by General Skinner. Here Cruzer, Barnum's lightning calculator, was born. It was bought by Daniel Pelton in 1839 [1835], and his daughter, Mrs. Gen. Duffie, still lives here."

The map of 1780-83 shows J. Rolph living in the next house to the west of C. Kruse Junr, who resided near the Kruser cemetery and the brook in what is supposed to have been the original Kruser house. He or his father probably built one of the several houses on the Kruser patent, but not the Pelton House, unless, perchance, as a carpenter or mason.

In March, 1928, the *New York Sun* printed in its "New York in Pictures" Series, as No. 212, a view of the Pelton House. In the accompanying text it states: "The Pelton House, Pelton Avenue and Richmond Terrace, West New Brighton, Staten Island, was built in three stages. The stone portion at the right was constructed in 1730. The building in the center was erected in 1776. The brick portion was added in 1830 when Daniel Pelton purchased the house [1835]."

"Major Andre of the British army, who was later executed as a spy, was billeted in the Pelton House during the Revolution.

"Nearby was the Kruser House, which has been torn down. Gen. Cortlandt Skinner, commander of Tory forces, made his headquarters at the Kruser House during the American struggle for independence, and Prince William, later King William IV of England, also spent some time in the structure."

Another picture of the Kruser-Pelton House was published August 16, 1929, by the *New York Sun*. An account of the old house by Miss Mabel Abbott accompanied the illustration. It contains much of interest, but as in the previous accounts the narrative probably includes parts of the history of more than one of the old houses at the Cove. The 1929 account reads:

"The generally accepted history of the house is that it was built by one Joseph Rolph and became the property of the Kruser family before the Revolution. During the Revolution Gen. Cortlandt Skinner occupied the Kruser house as his headquarters while he raised the famous Brigade of American Loyalists. Prince William of England, later King William IV, was entertained there while visiting this country as a midshipman.

"During part of its existence the house is known to have belonged to the DeGroot family, and some historians have believed that it was built by a DeGroot and that the Kruser house stood near it. In either case, however, it shared the exciting history that long centered about 'the Cove.'

"Major Andre was billeted at the house for some time and traditions of his personal attractiveness have descended from mouth to mouth in the DeGroot family. Statements of old residents are on record that it was once fired upon by the British man-of-war 'Asia.'

"In the 1830s the farm and farm house became the property of Daniel Pelton. During the Civil War Gen. Duffie, son of a French Count and an officer in the French Army, who was serving as a volunteer on the Northern side, came to Staten Island to recover from a wound, stayed at the Pelton House, and married Miss Mary Ann Pelton. They occupied the house for many years.

"After the Duffies moved to Manhattan, it was inhabited by a succession of tenants. Rockwell Kent, the artist, had a studio there for some time. During the World War it was turned into a boarding-house for shipyard workers. It remained in the possession of the Pelton family, however, until about twelve years ago, when Miss Victoria Wilms, miniature painter, with her mother and two sisters, bought it. Miss Wilms and her mother died there. The house is still occupied by the sisters.*

"Its interior is as well preserved as the exterior. In the kitchen in the oldest end of the house the crane remains in the original fireplace, though at present boarded up behind a more practical stove. The hard wood of the door of the old china closet built in the wall has been worn, just where a hand naturally touches it to open it, into five small, deep scallops, the imprint of the fingers of generations of women.

"Beside the fireplace a trap door gives access to a flight of stone steps that lead to a 'dungeon,' which has a tiny barred window. The present occupants have been told that at one time an underground passage led from this room to the Kill. The same tradition exists with regard to the Billopp House at the southern end of the Island. It might be true in either case. [But isn't.]

"Beside the 'dungeon' is the wine cellar. Miss Wilms and her sisters found in it a number of the old engraved wine bottles that are the delight of antique dealers.

"Hardly any two rooms in the house are on the same level. Their size and the width of the central hall and of the staircase evidence the means and importance of the farmers who built it. The marble mantels in two of the rooms are said to have been brought from France. In the older part the mantel is typically Colonial."

*The house was purchased by Mrs. Virginia James, a sister of Miss Wilms, and stands in her name.

We will now consider the first owners of the land with particular reference to the owners and builders of the old Pelton House and its several additions commencing with the original grants made by Governor Edmond Andros in 1677. As an aid we have had the several maps mentioned, and have also been referred to deeds, etc., through the kindness of the officers of the Title Guarantee and Trust Company, the New York Title and Mortgage Company, and the Lawyers' Title and Guarantee Company.

On September 29, 1677, a grant was made to Peter Jansen or Johnson, that extended along the shore from about 100 feet east of the present Kissel Avenue, then westward including Bard Avenue and Davis Avenue, to the westerly line of the present Pelton estate at the Cove.

Next came the Garrit Crouse or Crouse grant of September 29, 1677, that extended from the present Pelton Estate and the Cove, westward, including the present Bement Avenue, Elm Court and Burger Avenue, to the easterly line of Broadway. The boundaries as here given have the added authority of the late George M. Root, surveyor, who laid them down on a copy of Robinson's Atlas of 1898.

These patents or grants are shown on the map of 1780-'83, but had by that time been divided. On the Jansen grant, for instance, naming the occupants of houses along the shore road from east to west, we find: A. Banker, J. DeGroot and C. Kruse. This brings us to the Division Line.

Commencing just west of the Division Line at the Cove and on the Cruse patent, which by 1780 had also been divided, we have on the above-mentioned map the names of C. Kruse Jun^r., J. Rolph and L. Vroome.

It may well be asked how it happens that C. Kruse is found on land originally granted to Peter Jansen. It came about as follows: In 1689, as recorded in Liber B of Deeds, p. 137, Peter Jansen and Anne Jansen his wife, sold land to John States, who later also purchased lands from Henry Cruse and Cornelia his wife. In a deed dated 21 March, 1709, and recorded in Liber B, p. 585, we find this description: "All that certain Tract or parcell of Land situate and being on y^e north side of Sttaten Island Joyening East upon the Land of the Sd. John States, formerly purchased of the Sd Peter Jansen, west upon the Land of the Sd. John States,

Lately purchased of Henrich Cruse and fronting north to y^e river Kill Van Cull Containing in breadth, in the front three Hundred foot, in y^e reare three hundred foot; together all woods . . . " etc.

On August 13, 1709, John States or Sttates bought additional land from Henry Cruse and wife, as recorded in Liber B pp. 585-586. This was part of the Cruse Patent of 1677 and on the westerly side of the Division Line.

The Pelton House is situated on the Peter Jansen patent, just east of the Division Line between that patent and the Garrit Cruse patent, but, as is plain from the above-mentioned records, the land also became the property of John States in 1709.

As a further record of ownership of these adjoining farms, and which may also suggest some of the builders of at least portions of the Pelton House, we copy from Liber D of Deeds pages 285-286, being a conveyance of land from Jacob Bergen and wife to Cornelius Kroese in 1751:

"All that Piece or Parcel of Land situate lying and being on the North side of Staten Island aforesaid on the River Kill Van Coll, adjoining on the west side of the Partition Fence between the s^d Land, and the Land of Henry Kroesen, and running up into the Woods with a Direct Line, so as that Fence now stands, so far as the s^d Land of s^d Henry Kroesen extends into the woods, and containing in the Front at the Water Side in Breadth, east six Degrees Northerly one hundred and Eighty Eight Feet, and in the Rear one hundred and Twenty Eight Feet, which Piece or Parcel of Land was Conveyed by the said Henry Kroesen to John States on the thirteenth day of August in the Year 1709, as by the Indenture thereof made may appear, and also another Piece or Parcel of Land adjoining to the East side of the before-mentioned Piece or Parcel of Land running up into the woods so far as the first mentioned Piece of Land, and containing in Breadth, running the same Course in the front, three hundred feet, and in the Rear three hundred feet, which Piece or Parcel of Land was conveyed unto the said John States by Peter Jansen on the Twenty first day of March in the Year 1709, as by the Indenture thereof made may appear. . . . All of which said several Pieces and Parcels of Land and Meadow, was Conveyed and Confirmed unto the s^d Jacob Bergen his Heirs and Assigns, in and by a certain Deed under the

Hand and seal of the Reverend Mr. Cornelius Van Stantvoord bearing date the Third day of July Anno Domini 1745."

On May 31, 1830, in the case of Morris Hetfield Cruser vs. Mary Burger Estate, a map was filed with the Referee's Report in the office of the Supreme Court of the City and County of New York. We are indebted to Mr. Edward C. Delavan, Jr., for presenting a certified copy of this map to the Staten Island Institute of Arts and Sciences. The map is a survey made Dec. 1829, by A. Crocheron, Surveyor of the "Real Estate of the Late Cornelius Cruser of Castleton, Staten Island, Dec'd. and the Part Shaded on the Map is of Said Estate." The farm of 110 acres fronting on the Public Road by the Kill van Kull is shown to consist of two parts, one on either side of a "Division Line." This Line, that terminated at the Cove, separated the Jansen patent on the east from the Cruser patent on the west and is shown as dividing the estate of 110 acres of farm land into two parts, one of $57\frac{1}{2}$ acres on the old Jansen Patent, and the other of $52\frac{1}{2}$ acres on the old Cruser or Crouse patent. On this map are also shown as being on the Jansen patent, the "Mansion House," that is the present Pelton House, No. 1262 Richmond Terrace, as well as the smaller house close by known as No. 1280 Richmond Terrace.

On the westerly side of the "Division Line," that is on the old Cruser patent and across the "Stream," a "Dwelling House" and barn are shown. This last is the one occupied by "C. Kruse Junr." on the 1780-'83 map, while what we know as the Pelton House on the easterly side of the Division Line, is shown on the 1780-'83 map as occupied by "C. Kruse." As here shown by the 1829 map of the estate of Cornelius Cruse, they both belonged to him at the time of his death.

From the records, we have thus far been able to trace the ownership of the Pelton House after the purchase of the farm by John States in 1709 to Cornelius Van Stantvoord in 1734, to Jacob Bergen in 1745, and to Cornelius Cruser on April 23, 1751. In 1807 the farm became the property of Cornelius Cruser, Jr.

So it is evident that we make no mistake in calling the old house the Cruser-Pelton House, and it could be called the Van Sandtvoord-Bergen-Cruser-Sutton-Pelton House. It was conveyed to

Joshua Sutton, May 31, 1830, and Daniel Pelton and Frederick Place purchased it in 1835 (Y. C. p. 235). The record reads that on the "first day of April, 1835, Joshua Sutton was out of his right mind and insane, that he kept himself shut up in his room and neglected to perform the said agreement on his part." It is also stated that he occupied the farm sold by Murray Hoffman "committee of the person and estate of the said Lunatic."

It was also at one time occupied by a member of the DeGroot family, and we will now consider their farm, which as we have stated, adjoined the Cruser farm on the east.

We have been granted the privilege of examining an abstract of the title by which it appears that the central portion of the Peter Jansen patent was first owned by John States (Liber B., p. 137) and the present Bard Avenue divides it from the easterly portion once known as the Abr^m Crocheron farm. There appears to be no record showing the devolution of title into John or Johannis DeGroot. It is recorded, however, that he died seized of the premises and other lands, and disposed of them in his will, proved May 6, 1790.

In that will he left the property under consideration, not to his son Peter, but to his grandson Garret DeGroot, and he says: "Finally I do hereby nominate, constitute and appoint my loving grandsons Garret DeGroot and John Cruser to be the executors of this my last will and Testament."

This grandson John Cruser was the son of Johannes DeGroot's daughter Belitje, who, according to the researches of Mr. Charles W. Leng, married Cornelius Kroesen in 1759.

Nathaniel Britton and William DeGroot, Administrators of the Estate of Garret DeGroot, together with members of his family, deeded the farm in May, 1814, to Richard and Jasper Codmas of Bergen County, New Jersey. (Deeds I, pp. 26-30.)

The next owner was George J. Codmas, who sold to Thomas E. Davis, and hence we have Davis Avenue, which forms the western boundary line of the property. It will be seen from the foregoing, that the DeGroots and the Crusers not only lived on adjoining farms, but that they also intermarried and that Peter DeGroot, son of Johannis, lived next door to his sister Belitje, and his nephew John Cruser, who resided in what we now call the Pelton

House. The old map of 1780-'83, shows families living side by side, with Cornelius Cruser, Jr., living just over the line on the old Cruser patent, as has already been stated; and considering the various owners and the intermarriage, it is no wonder that Mr. Alfred DeGroot and John J. Clute, two of Staten Island's best historians, as well as many others, have been uncertain about the owners of the old Pelton House, the Cruser House, and the adjoining farms.

LAST WILL OF JOHANNIS DEGROOT

Date Nov. 18, 1788.

Proved May 6, 1790.

Rec. L. A. Wills p. 35

Lett. Test. issued to Garret DeGroot

L. A. W. p. 38.

In the Name of God. Amen. I Johannis DeGroot of the County of Richmond and State of New York, House Carpenter, having attained to a good Old Age, in so much that according to the usual Course of Nature it is reasonable to conclude, that my departure from this transitory State of Existence is not far distant, and conceiving it to be a prudent and wise part, to order and adjust my worldly Concerns, before the Springs of Life are broken, and while blessed with the full and unimpaired Enjoyment and Exercise of my mental faculties, I therefore, in compliance with the Calls of reason, and in obedience to the dictates of Conscience, upon the fullest deliberation, make my last Will and Testament, in Manner and Form following. Principally It is my earnest Desire to resign my Spirit into the hands of that God, who created me; in a reliance of his Mercies, and the meritorious Sufferings of my exalted Saviour, Jesus Christ, that it, being released from its' earthy Tabernacle, may be wafted unto the glorious Presence and Fruition of my heavenly Father. The Interment of my Body I submit to the prudent Management of my Grandson, Garret DeGroot; requesting that no superfluous Expenses attend it; but that my Funeral be conducted, in a decent and respectable Manner, and the modern Customs and Rites of the Place be observed. My Estate, real and personal, I give, bequeath and dispose of, in the following Manner. Imprimis, I give and bequeath unto my son Peter DeGroot, his Heirs and Assigns, all my Carpenter Tools and waring Apparel, of what nature or kind soever, of which I shall die possessed, to the only proper Use, Benefit and Behoof of my said Son Peter, his Heirs and Assigns for ever. Item. It is my Will, and I do hereby order and direct, that my said Son Peter DeGroot, and his Family shall occupy, possess and enjoy, for a limited Time, the Dwelling House which I built, on the declivity of the Bank, opposite to the Barn, in which he at present resides, together with the Garden Spot in front of it, without the Let, Hinderance, or Molestation of any of the Heirs to my

Estate; that is to stay untill William and Garret DeGroot, the Sons of my Grandson Garret DeGroot, shall both have attained to the Age of Twenty one Years, or, in case of either dying, then only during the Minority of the Survivor; and that during the Term above mentioned, he the said Peter DeGroot shall be obligated to keep the Dwelling House in good tenantable Repair, and at the expiration of the said Term, to surrender the possession of the said House and Priviledges accompanying it, into the Hands of the Heirs thereof. Item. I give and devise unto William DeGroot, and Garret DeGroot, sons of my Grandson Garret DeGroot, when they shall both have attained to the Age of Twenty-one years, the above mentioned Dwelling House, situate on the declivity of the Bank, with its Appurtenances, together with the Garden Spot in front thereof, as it is now enclosed, to be to the only proper Use, Benefit and Behoof of them, the said William and Garret DeGroot, their and each of their Heirs and Assigns forever. But, in case either of my said Great Grand Children, above mentioned, should die under Age, and without lawful Issue, the Share of the Defunct to belong to the Survivor, and should it so happen that neither should live to the Years of Maturity, the Property above devised to them, shall be at the full and free disposal of their Father, Garret DeGroot. Item. All the Residue of my Lands, Tenements, Improvements, Hereditaments and appurtenances, whatsoever and wheresoever, comprehending therein all my Lands, situate in the Manor of Castleton amounting to about Twenty two Acres, a Lot of Salt Meadow, lying on the Western Shore of Staten Island, computed to be Twelve Acres, and the Farm or Plantation which I now occupy, situate on the North Side of Staten Island, and fronting the River Kill Van Kull, I give, grant and devise to my said Grandson, Garret DeGroot, to him, his Heirs and Assigns for ever. Item. I also give and bequeath unto my said Grandson, Garret DeGroot, my Negro Man Thomas, and his wife Sarah, my Sorrel Mare; all my Farming Utensils, and Household and Kitchen Furniture, of what Nature or kind soever and the whole residue and Remainder of my personal Estate, after the former Bequests shall have been fulfilled. Item. I do will, order and direct, that my said Grandson, Garret DeGroot, in consideration of the foregoing Bequests, do pay or cause to be paid, unto my descendants underneath named, the full sum of Four Hundred Pounds, current Money of New York, within the time, and the Manner hereafter directed. Previous to the payment of any part of the above Monies to the Legacies, by my said Grandson, Garret DeGroot, a Bond given by me to Wilhelmus Vreeland, for the faithful payment of Fifty Pounds, shall be discharged and deducted from the said sum of Four Hundred Pounds. Item; I do further will, order and direct that my said Grandson Garret DeGroot, shall in the first place, pay unto my Grandson, John Crusier, and Grand daughter Lana Mersereau, the sum of Fifty Pounds each current Money of New York, which, in case of either's decease, shall be equally divided among their Children. Item. The Monies which shall then be left, after the payment of the above Legacies, and the discharge of the said Bond, I do will, order and direct, my said Grandson Garret DeGroot to

pay to and divide equally among the other Children of my Son's Peter DeGroot and Robert DeGroot, or the Survivors of them, Share and Share alike, and that my said Grandson Garret DeGroot shall be allowed a Term of Five full Years, after my decease, to pay the whole or any of the Legacies above bequeathed. Finally I do hereby nominate, constitute and appoint my loving Grandsons, Garret DeGroot and John Cruser, to be the Executors of this my last Will and Testament, charging them to see the same, faithfully performed, according to my true intent and Meaning; ratifying, allowing and confirming this only to be my last Will and Testament.

In Witness Whereof, I the said Testator have hereunto set my hand and Seal, this Eighteenth day of November, in the Year of Our Lord, One thousand seven hundred and eighty eight and in the thirteenth Year of the Independence of the United States of America.

his
Johannis X De Groot
mark

Signed, Sealed, Published and Declared by the said Johannis De Groot, as his Last Will and Testament, in presence of us.

Nathaniel Johnson,
Elizabeth Bush,
Abrm. Bancker

MISCELLANEOUS NOTES

The following is taken in part from a "Memorandum of the Cruser Family on Staten Island" compiled about 1900 by Alexander S. Rowland, to which has been added some of the inscriptions from the gravestones that once stood under the wide-spreading black walnut trees in the Cruser burying ground at the Cove, close to the easterly line fence of the Patent. These are copied from the articles on "Homestead Graves," printed in the Proc. Nat. Sci. Assn. of Staten Island for December, 1889, and January 11, 1902.

I. *Garret Croesen*, born Wynschoot, Holland; lived at Gowanus, Brooklyn (See Records of the Brooklyn Dutch Church); died 1680. He received a Patent for 160 acres of land on Staten Island in 1677.

II. *Hendrick Kroesen*, born Brooklyn; removed to Staten Island after the death of his father; married Cornelia, daughter of Capt. Cornelius Corsen; died 1761 at Staten Island; left a Will, recorded in N. Y. County in Liber 23 of Wills page 77, July 4, 1761.

III. *Garret Kroese*, born Staten Island, May 20, 1703; baptized June 1703. (See Record Port Richmond Dutch Church); his tombstone is now [about 1900] to be found on the site of the old family burying-ground at the "Cove," and shows that he died May 11, 1760, aged 57 years.

IV. *Abraham Cruser*, the Record of the Port Richmond Dutch Church shows that Abraham, son of Garrett (Hendrick's son) and Geertruyd Van Tuyl, was baptized August 6, 1735; his tombstone in the churchyard of the same church shows that he died March 11, 1771; his Will was probated May

22, 1771, is recorded in N. Y. County in Liber 28 of Wills, page 10; it leaves property to his son John.

Hier onder rust her lyk | van Garrit Kroese, | overleeden den XI^{en} | Mey A.D. MDCCLX, | oudt zynde LVII Jaren | en XI Maanden.

Hier onder rust her lyk van | Cornelia Kroese, | Doghter van Garrit | Kroese, overleeden den | XVIII^{en} Mey A.D. | MDCCLX oudt | zynde XIX Jaaren.

Here lies the Body of | Closa, the Widow of | Garret Cruser, who | de-
ceas'd March ye 21st | Anno Domini 1787, | In the 77 Year of | her Age | Cut
by Abner Stewart.

In Memory of Cornelia Cruser who departed this life, December 25th 1807, Aged 71 years, 5 months and 17 days.

In Memory of Beliche Cruser wife of Cornelius Cruser, who departed this life February 14th, 1815. Aged 75 Years and 8 months.

Antique Watches on View at the Museum. A Short History of their Horological Development

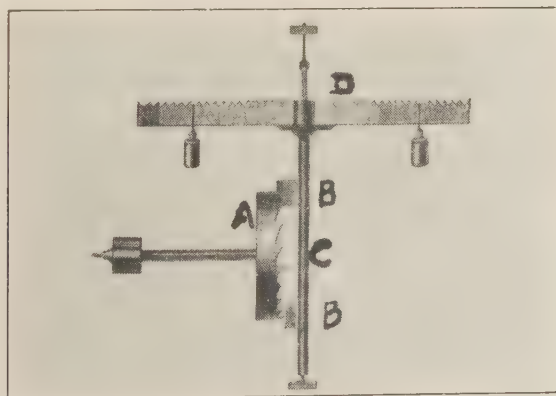
L. IRVING KING

(With Text Figures)

Recently I had the pleasure of examining a collection of antique watches at the Museum of the Staten Island Institute of Arts and Sciences, through the courtesy of Mr. Charles W. Leng. Some of these ancient timepieces will still function, though nearly two centuries old.

These movements illustrate two chief characteristics of old watches, namely, the "Verge Escapement" and the "Fusee."

The verge escapement is remarkable as being the first mechanical device for the regulation of a train of wheels used for the purpose of time keeping. Though crude and of low efficiency when compared with later devices, it is simple, and remained the principal escapement in watches from its inception, about 1300 A. D., to the beginning of the nineteenth century. The manufacture of the first real timepiece, a clock, employing the verge, is usually credited to Henry De Vick.



As illustrated, this escapement consists of a wheel (A) shaped with teeth like a circular saw. This wheel is often called the crown wheel. The two pallets (B) were small steel plates fastened to an arbor (C) which was supported at the top by a cord, and at the bottom turned in a small pivot hole. To this arbor was fastened a

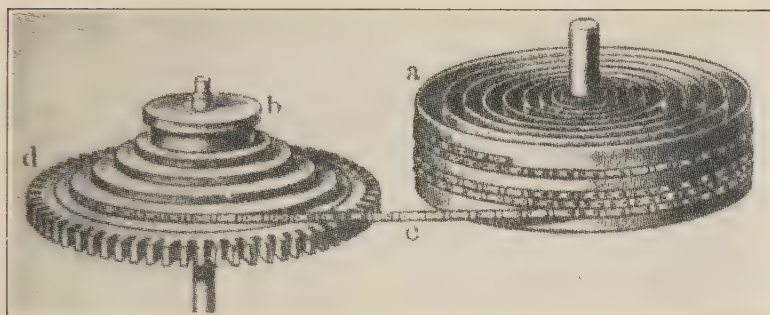
horizontal bar or foliot (D) which swung back and forth, allowing one tooth in the crown wheel to move forward, at each beat. The moveable weights on the horizontal bar were used to regulate the speed of the beats. The movement illustrated was the design of the original crude device, and could be used only in clocks driven by weights as the motive power.

No form of watch was possible, of course, until a motive power other than gravity could be discovered.

About 1511 A. D. a locksmith in Nürnberg, one Peter Henlein, had an idea which first made possible the adoption of the verge escapement to a train of wheels small enough to form a timepiece which could be carried on one's person; that is to say, a watch. He used a coiled ribbon of tempered elastic steel to drive the train of wheels as it uncoiled. This was the first watch main spring.

In these early portable clocks or watches the wheels were hand made of either iron or steel; they had only one hand—the hour hand—and were enclosed in cylindrical cases with a hinged cover. The cases were often of precious metals, beautifully carved and pierced. Indeed, most of the labor seemed to be spent on beautifying the external appearance, although as accurate timekeepers they were very poor.

The introduction of the main spring as the motive power was accompanied by a serious complication with respect to keeping time. The verge escapement in clocks run by weights had a constant force applied to the wheels, but the power derived from the first crude main springs was quite variable. When first wound, the force was strong and the watch ran fast, but when nearly exhausted the watch lost time rapidly. As the springs were short, they required winding several times daily, so while breakfast might be right, dinner was quite likely to be delayed. Several devices were invented to overcome this fault, but the only one really successful was invented by Jacob Zech at Prague, about 1525. It was known as the "fusee." As illustrated, it consists of a round barrel containing the main spring. On the periphery of the barrel is wound a cord or chain which in turn is fastened to a grooved pulley shaped like a cone, with the grooves in a spiral curve from its apex to its base. The conical pulley is geared to the watch train. When the watch is wound, the cord is all coiled up in the spiral grooves, the free end leaving the pulley near its apex and extending to the



main spring barrel. As the watch runs, the cord winds up on the barrel, and unwinds from the pulley, the free or pulling end gradually approaching the pulley base. Thus the force applied to the wheels is increased through the increasing radius of pull toward the base of the cone. If properly designed this device delivers equal power through the entire range of the main spring, and the watch keeps better time.

The fusee proved practical and was widely used until the early part of the nineteenth century, when improved main springs and escapements rendered it unnecessary. There are many watches running today with the fusee attachment, and it is still used in marine chronometers where extreme accuracy is demanded and size immaterial.

Although the old verge escapement endured until the nineteenth century, several changes and improvements took place. About 1600 a straight stiff hair or bristle from a pig was used to control the recoil of the bar balance, or foliot. The writer has seen one of those ancient timepieces controlled by a pig, as it were. The bristle was fastened to a stud, and extended straight across the back plate of the movement, being struck at the free end by each beat of the balance bar, the stiff hair throwing back the bar for the next beat.

About this time the straight balance arm developed into a circular balance wheel, and about 1675 the researches of several scientists, Robert Hooke, John Hantefeuille and Christian Huygens, resulted in the evolution of one of the most important parts of a watch, either ancient or modern, the hair-spring.

The hair-spring is a fine flat coiled spring, which is fastened to the balance wheel, and due to its elasticity, controls and times the beats of the balance. This device greatly improved the ac-

curacy of watches, and the application of jewels as bearings for the tiny pivots of the wheel arbors also improved the running by reducing friction and wear. These improvements made the use of minute- and second-hands practical.

In 1770 a Frenchman, Louis Brequet, changed the shape of the plain circular hair-spring by adding the over-coil, the outer end being twisted back nearly over the centre. This causes the long beats of the balance wheel, when a watch is fully wound, to consume the same portion of time as the shorter beats, increasing the accuracy and rendering the fusee unnecessary.

The modern lever escapement now used in practically all watches was invented by Thomas Mudge, an Englishman, in 1765, and rapidly replaced the old verge escapement, which was abandoned entirely soon after the beginning of the nineteenth century.

As one views these ancient timekeepers, now mostly confined to museums and private collections, he cannot but marvel at the evidence of infinite skill and patience in fashioning their perfect wheels and pinions and their curious cases. They were all made and finished by individual hand labor. Old watches of those times still exist which are a maze of wheels, springs and cams; telling not only the hour, but the days, months and years; phases of the moon and stars, with bells to strike the hour, and alarms to sharpen the memories of the lazy. Some took years to make, with magnificent cases of gold and jewels. Of course, none but royalty and a few princes could own a pocket watch.

Nowadays, with our modern American methods (for American mechanics and scientists were the first to introduce standardized factory watches—the peer of any made in the world today) any high school Miss is able to verify grandpa's sturdier timepiece with a glance at the jeweled ornament upon her wrist.

The writer is indebted to the following authors for much of his data:

Time and Timekeepers, W. I. Milham

Old Clocks and Watches and Their Makers, F. J. Britten

The Old Clock Book, Mrs. N. H. Moore

Das Regulieren der Uhren, Moritz Grossman

The Clockbook, Wallace Nutting.

Watch and Clock Making, David Glasco

A brief description of the watches now at the Museum of the Staten Island Institute of Arts and Science, follows:

MESCHENMOSER COLLECTION

Watch marked Fr. Jos. Gropper:

This is a verge escapement with fusee and chain. Pierced hands. Maker not recorded, probably English make, about 1790.

Watch marked France, 1717, P. R. on back:

Has verge escapement, fusee and chain. Shows hours, days of month and days of the week. Probably French manufacture. Very doubtful if date 1717 is correct; appears much more recent.

Watch marked "Old English Lever Watch:"

This is not a lever watch. Has the usual verge escapement, fusee and chain. This watch was made by John Higginson, at 38 Southhampton St., London, about 1798.

Watch with small label (3 I. K.):

Verge escapement, fusee and chain. Has finely carved square pillars supporting the plates. Made by Peter Moore, 1780 to 1806, at 15 Sweetings Lane, London. This watch is in running order.

Watch with label (4 I. K.):

Verge escapement and fusee and chain. Made by Joseph Johnson in Liverpool, 1796 to 1830.

Watch with label (5 I. K.):

Verge escapement, fusee and chain. This watch has a finely made movement. Made by Milden, at Liverpool, about 1820.

Watch with Chinese dial:

Verge escapement, fusee and chain. No maker shown. About 1830.

Watch with label (6 I. K.):

Verge escapement, fusee and chain. Made by Alexander Ross, London, about 1800.

Watch with label (7 I. K.):

Verge escapement, fusee and chain. Made by B. Freeman, London, about 1820.

SEPARATE WATCHES

Watch of W. A. Anderson:

Verge escapement, fusee and chain. Gold case. No maker shown. About 1820.

Watch of Col. Archibald McLean:

Verge escapement with diamond jewels. Fusee and chain. Solid

gold case. No maker shown. Hall marks on case indicate year 1806. Is in running order.

Watch of John B. Pearson:

English lever movement, with seven jewels. Fusee and chain. Made in Halifax, England, about 1848.

Watch of John De Morgan:

Verge escapement, fusee and chain. No maker shown. About 1800.

Records of Meetings

CONDENSED REPORT OF INSTITUTE MEETINGS

Saturday, October 15, 1932.—Mr. Davis exhibited a large wooden bowl, made from the excrescence found on the trunk of a tree, which had been given to him by Mr. Wm. Eisenhardt who had obtained it on Long Island. Mr. Davis also exhibited a female painted turtle, *Chrysemys picta*, given to him by Mr. Junius Bird. Mr. Bird had taken this turtle from Rye, N. Y., to Cape York, Greenland, where it had proved an object of fear to the natives. Mr. Leng spoke, with illustration by lantern slides obtained through the Carnegie Grant, on the "Pioneers of America."

Saturday, November 19, 1932.—Mr. Stryker exhibited two living specimens of the Dovekie, *Alle alle*, a seabird not previously recorded from Staten Island. Dr. Chapin and Mr. Davis spoke of the habits of this bird, occasionally driven on shore by continued easterly gales. Dr. Chapin also exhibited a living Woodcock. Mr. Ned J. Burns, of the Museum of the City of New York, spoke with illustration by lantern slides, on "Old New York." Several of the illustrations showed miniature historical groups of his own preparation.

Saturday, December 17, 1932.—Professor David Varon spoke on "Masterpieces of Art, their Birth and Significance," with illustration by rapid sketches on the blackboard.

Saturday, January 21, 1933.—Mr. Beil exhibited specimens of the Fairy Shrimp, *Branchipus vernalis*, found in Connecticut, and referred to its occurrence on Staten Island as recorded by Mr. Davis in 1893 and 1898. Announcement was made of the death on January 1 of Mr. Ernest Beaumont. Mr. Horace G. Richards, of the Academy of Sciences of Philadelphia, spoke on "Seashore Animals of the New Jersey Coast," with lantern slide illustrations.

Saturday, February 18, 1933.—Mr. Davis exhibited a portion of his collection of Diptera, including specimens of flies of parasitic habits. Dr. John J. Schoonhoven, of New York University, spoke on "Unwelcome Guests—How the other half lives," covering comprehensively the subject of parasitism, especially in relation to the parasitic organisms found in the human body.

Saturday, March 18, 1933.—Under the direction of the Staten Island Microscopical Society, an exhibition of microscopic objects was given. The exhibitors were George E. Ashby, Frank M. Ashley, Irving Banner, Joseph F. Burke, Wm. T. Davis, John A. Grenzig, Charles W. Leng, Edward Lucey, Wesley E. McArdell, Rodney B. Miller, Thomas I. Miller, Agnes Vinton Miller, George H. Needham, John M. Sheridan, Dr. Frank A. Strauss, Dr. Wm. H. Wiegmann, George B. Wilmott, and Gladys H. Wilmott. Photomicrographs were exhibited by Philip O. Gravelle and Robert Hagelstein. The committee in charge included Messrs. Ashby, Burke, and Needham.

Saturday, April 15, 1933.—Mr. Charles Louis Pollard, under the title, "Up the Amazon from Para to Peru," described his journey to Iquitos in the steamer *Polycarp*, for the purpose of collecting butterflies, with lantern slide illustrations.

Saturday, May 20, 1933.—Annual meeting with reports of Board of Trustees and members of the staff, followed by reelection of Dr. N. L. Britton, Dr. James P. Chapin, Mr. Howard H. Cleaves, Mr. W. Irving Lewis, Hon. Thomas C. Brown, Hon. Morgan M. L. Ryan, and Mr. Wm. J. Welsh as trustees. Mr. Beil exhibited *Hyla versicolor* from Staten Island. Mr. Robert Hagelstein, Honorary Curator of Myxomycetes, New York Botanical Garden, under arrangements made by the Staten Island Microscopical Society, spoke on "The Myxomycetes or Slime-Molds." His address, which was illustrated by specimens from his collection, shown in part under microscopes, as well as by lantern slides, was a comprehensive survey of a group of organisms which he said should be called more properly Mycetozoa, being more like multinuclear amoebæ than plants. Their life-history, methods of collecting, preserving, and study were all described in detail.

MEETINGS OF SECTIONS

SECTION OF HISTORICAL RESEARCH

George W. Tuttle, chairman.

The membership of this section and its activities, in cooperation with the Staten Island Historical Society, the Conference House Association, the Daughters of the American Revolution, the Bicentennial Celebration Committee, has shown a satisfactory growth. Mr. Loring McMillen, elected custodian of the Historical Society on May 16, 1932, has been active in the study of old houses, mills, etc.; with the assistance of Mr. Howard R. Hill, he has saved some old gravestones from destruction, and has transferred from the mill-site on Jesse Bedell's Mill Creek to the Stillwell-Perine House one of the ancient millstones. Rev. L. M. A. Haughwout has also procured the preservation of an old cemetery at Rossville and, with the assistance of Messrs. Birdsall and Remington, has reduced to card index form, some early real estate records. Rev. Frank S. Fry, and the Consistory of the Dutch Reformed Church, have placed in our care the stone dated 1715, believed to have been a part of the original church and the oldest inscribed stone on Staten Island. On January 14, 1933, the Publication Committee completed in volume VI of our PROCEEDINGS the important "Anthon's Notes," written in 1852, and on April 17, 1933, volume V of "Staten Island and Its People," by Messrs. Leng and Davis, was published, thus completing that work.

Among the important historical accessions were Winterbotham's Atlas of 1796, Butler's Map of 1853, Root's Map of 1866, Dripps' Map of 1872, photostatic copies of Taylor and Skinner's Map of 1781, Plan du Camp Anglo-Hessois of 1780-1783, Atlas of Historical Geography of U. S. These came to us through the generosity of Mr. James T. Gilbert, North, Allison and Ettlinger, Loring McMillen, and Mrs. Agnes Vinton Miller. Documents, books, etc., of historical value were received from Winthrop Hillyer Duncan, James M. Fitch, Rev. Frank S. Fry, Miss S. Gertrude Clark.

Lectures on historical subjects, given during the year by Mr. Leng on "Pioneers of America," with lantern slides provided by Carnegie Grant, on October 15, 1932. Also repeated for children, on October 14, 1932, and March 3, 1933.

Mr. Burns on "Old New York," on November 19, 1932.

Mr. Leng on "Pilgrim Fathers," on November 25, 1932, for children.

Mr. Leng on "Staten Island History," on December 23, 1932, for children.

Dr. North on "Gabriel P. Disosway," on January 29, 1933, at the Huguenot Memorial Church, especially referring to the first settlement of Oregon.

Mr. Stryker on "Abraham Lincoln," on February 10, 1933, for children.

Mr. Beil on "George Washington," on February 17, 1933, for children.

Dr. Dixon Ryan Fox on "Washington," on February 22, 1933, at the meeting in the Stillwell-Perine House of the Staten Island Historical Society.

Lantern slides loaned by us were used at the Staten Island Academy for lectures on Mediaeval Europe; and our lecture on Pilgrim Fathers was repeated for a class from Dongan Hall.

Genealogical information has been furnished on many Staten Island families in reply to inquiries by mail or by personal calls; also to members of the Staten Island Bar, interested in the Lancaster Symes suits. The progress of the George Washington Bicentennial Celebration from May to November, 1932, brought other inquiries, especially in connection with the historical tablets which were erected. The wording of some of the tablets was supervised by members of this section, but not of all. Mr. Davis made an address, in this connection, at the Christopher House; Mr. Leng and Mr. Kolff at Faber Park.

The opening of the West New Brighton library at the end of March, afforded an opportunity for the exhibition of historical mementos of that section of Staten Island, loaned by the Museum.

SECTION OF NATURAL SCIENCE

Charles W. Leng, chairman.

The members of this section have participated in the events connected with the Nature Club, Bird Club, Horticultural Society, Microscopical Society, etc., which are separately recorded. Individually or conjointly their labors have produced most of our lectures and exhibits relating to natural science. The Institute lectures, procured through the Carnegie Grant, given by Mr. Horace G. Richards, Dr. John J. Schoonhoven, and Mr. Charles L. Pollard, were exceptions. The special exhibits were: Quartz by Mr. John M. Sheridan, Fossilization by Mr. George E. Ashby, Pearl Shells by Mrs. Agnes Vinton Miller, Lodestone by Mr. Ashby, Zircon and other Staten Island material by Mr. John Rader. The exhibit of Staten Island Mollusca was prepared by Mr. Hans L. Stecher through the kindness of Mr. Wm. T. Davis. The exhibit of Microscopical Objects on March 18, and the Mycetoza shown on May 20 by Mr. Robert Hagelstein were due to the members of the Microscopical Society. Additions to the minerals were made by several members, to the herbarium by Dr. Britton and Dr. Hollick, and to the ani-

mals living and dead. The Museum Zoo, under the care of Mr. Stecher and Mrs. Bonney, has been enlarged by the gifts of Mr. Harold J. O'Connell. Some of its salient features during the year were the hatching of the eggs of the Fence Lizards, *Sceloporus undulatus*, brought from New Jersey by Mr. Harrison Johnson; the success of Mr. Stecher in showing Sea-Anemones in salt water aquaria, and tropical fishes of brilliant coloration; and the numerous addition of snakes by Mr. O'Connell. A complete list of specimens exhibited is appended.

Among the additions to the mounted specimens were a seven-inch Seahorse, *Hippocampus hudsonius*; a white geometrid moth, *Ennomos subsignarius*, which by its abundance obtained some notoriety; a young Opossum, *Didelphis virginiana*, caught by Mr. Chris Roehrig; the Chub Mackerel,



The medal awarded to Dr. N. L. Britton by The American Scenic and Historic Preservation Society in recognition of his more than half a century of scientific work and of his founding of the New York Botanical Garden.

Scomber colias, of which thousands were caught in August, 1932; a hoary bat, *Nycteris cinerea*, found by Mr. George Lamperti; and the Dovekie, *Alle alle*, driven ashore by easterly gales on November 19, 1932, the first definite record for Staten Island; the cost of mounting some of these specimens was defrayed by the Staten Island Bird Club. Other interesting exhibits were made of Fairy Shrimp, *Branchipus vernalis*, by Mr. Beil, and of the Chipmunk, *Tamias striatus*, by Mr. Johnson.

The lectures given in the museum and elsewhere, other than those mentioned above, are included in the report on Educational Activities and need not be here repeated.

The interest of the members of this section in conservation has been repeatedly manifested, as by the address by Mr. Davis on January 20, 1933, before the Staten Island Conservation Commission. The announcement in our January *Bulletin* that the National Association of Audubon Societies was ready to care for a Bird Sanctuary on Staten Island, coupled with the verbal consent of the Park Department to the use for that purpose of a portion of New Springville Park, opens a prospect for gratifying developments in the future in the conservation of native plants and animals of all kinds as well as birds.

The success of one of the founders of the Institute, Dr. N. L. Britton, in promoting conservation in Bronx Park has been most appropriately recognized by the American Scenic and Historic Preservation Society in awarding to him the Pugsley silver medal with the following citation: "Dr. Nathaniel Lord Britton—for over fifty years a serious scholar of enviable rank in the fields of geology and botany; author of many alluring books and monographs in your favorite field of botany; founder of The New York Botanical Garden, and for thirty-three years its Director-in-Chief: we extend to you our deepest appreciation for your accomplishments in that most educational and scenic garden which has been so much a part of your life, in token of which appreciation we ask you to accept this medal."

MUSEUM ZOO

Under the direction of Mr. Hans L. Stecher, whose services have been supplied by Mr. William T. Davis, assisted by Mrs. P. A. Bonney, the Museum Zoo has become one of the greatest attractions in our Museum. The cages in which the turtles, snakes, etc., are shown have been doubled in number through the generosity of Mr. Harold J. O'Connell, and the exhibits of tropical snakes have been enriched by the expeditions of Mr. O'Connell and Mr. Ellsworth B. Buck. Various members of the Institute and of the Staff, notably Mr. Harrison Johnson, have contributed to the inhabitants of the Zoo. A list of the specimens shown follows:

SPECIMENS EXHIBITED IN THE MUSEUM ZOO DURING THE YEAR JUNE, 1932—JULY, 1933

SNAKES

Black Snakes—*Zamenis constrictor*.

Blunt Headed Snake—*Leptognathus catesbyi* (Tropics).

- *Boas—Imperial—*Boa Imperator* (Central America).
 - *Cuban—*Epicrates angulifer*.
 - Tree—*Boa hortulanum* (Tropics).
- Bull Snake—*Pituophis catenifer*.
- Bush Snake (Honduras).
- *Chain Snake—*Ophibolus getulus* (Florida).
- *Chicken Snakes—Banded—*Coluber obsoletus quadrivittatus*.
 - Spotted—*Coluber emoryi*.
- Coachwhip Snake—*Zamenis flagelliformis*.
- *Corn Snakes—*Coluber guttatus*.
- *DeKay Snakes—*Storeria dekayi*.
- *Garter Snakes—*Eutaenia sirtalis* (Native and Florida).
- *Garters—Babies born at the museum.
- Green Snake—*Liopeltis vernalis*.
- *Green Headed Snake (Cuba).
 - Hognosed Snakes—*Heterodon platyrhinus* (Western, Southern and Native).
- *Indigo Snake—*Spilotes corais* (Florida).
- King Snakes—*Ophibolus* (C. A. and Florida).
- *Milk Snakes—*Ophibolus doliatus clericus*.
 - Ophibolus doliatus triangulus*.
- *Pine Snake—*Pituophis melanoleucus*.
 - Python—*Python molurus* (India).
- *Ribbon Snakes—*Eutaenia sackeni* (Florida).
- *Ring-necked Snakes—*Diadophis punctatus*.
- Worm Snake—*Rhineura floridæ*.
- *Water Snakes—*Tropidonotus fasciatus sipedon*.
 - **Tropidonotus cyclopium*.
 - **Natrix sipedon*.

TURTLES

- *Box Turtles—*Cistudo carolina*.
- *Cumberland Terrapins—*Chrysemys elegans*.
- *Diamond-back Terrapins—*Malacoclemys palustris* (Georgia).
- Geographic Turtles (*Malacoclemys geographica*).
- *Greek Tortoises (Europe).
- Lesueur's Terrapins—*Malacoclemys lesueurii*.
- *Musk Turtles—*Sternotherus odoratus*.
- *Painted Terrapins—*Chrysemys picta*.
- *Snapping Turtles—*Chelopus serpentina*.
- *Wood Turtles—*Chelopus insculptus*.

LIZARDS

- Gila Monster—*Heloderma suspectum*.
- *Pine Swifts—*Sceloporus undulatus*.
- Baby Swifts born at the museum.
- Texas Spiny Lizard—*Sceloporus spinosus*.
- *Texas Horned Lizards—*Phrynosoma cornutum*.

BIRDS

- *Ringneck Laughing Doves.
- White Crowned Pigeons.
- Colombian Jays.

FISH

Native

- *Carp—*Cyprinus carpio*.
- Killifish—*Fundulus diaphanus*.
- *Shiners—*Abramis crysoleucas*.
- Sunfish—*Eupomotis gibbosus*.

Tropical

- Angel Fish—*Pterophyllum scalare*.
- *Brazilian Catfish—*Corydoras paleatus*.
- *Dwarf Gourami—*Colisa lalius*.
- *Flag Fish—*Jordanella floridae*.
- *Guppies—*Lebistes reticulatus*.
- *Guppies—Lace Tail.
- *Leopard Fish—*Gambusia holbrooki*.
- *Medakas—*Oryzias latipes*.
- *Pearl Danios—*Danio albolineatus*.
- *Redfin—*Aphyocharax rubripinnis*.
- *Swordtails—*Xiphophorus helleri*.
- Weather Fish (Europe).
- *Zebra Fish—*Danio rerio*.

MARINE LIFE

- Sea Anemones—Brown—*Metridium*.
- *Cave—*Sagartia troglodytes* (Germany).
- *Gem—*Bunodes gemmacea* (Germany).
- *Orange-striped—*Sagartia luciae*.
- *Red—*Actinia equina* (Germany).
- White-armed—*Sagartia leucolena*.

Barnacles.

- *Horse-shoe Crabs—hatched from eggs at museum.
- Green Crabs—*Carcinus maenas*.
- Hermit Crabs—*Eupagurus bernhardus*.
- Medusae.
- *Prawns.
- *Marine Snails.

MOLLUSKS

- *Australian Red Snail—*Bulinus australianus*.
- *Red Ramshorn Snails—*Planorbis corneus rubrum*.
- *Live-bearing Snails—*Paludina vivipara*.
- **Polygyra albolabris*.
- **Polygyra thyroides*.

**Polygyra tridentata*.

Great Spotted Slug—*Limax maximus*.

FROGS AND TOADS

*Anderson's Frog—*Hyla andersonii*.

*Carpenter's Frog.

Cricket Frog—*Cecris gryllus*.

Green Frog—*Rana clamitans*.

Leopard Frog—*Rana pipiens*.

Pickerel Frog—*Rana palustris*.

Swamp Tree Frogs—*Chorophytus nigratus*.

Tree Frogs—*Hyla versicolor*.

Spring Peepers—*Hyla pickeringii*.

Wood Frog—*Rana sylvatica*.

American Toad—*Bufo americanus*.

Fowler's Toad—*Bufo fowleri*.

SALAMANDERS

Dusky Salamander—*Desmognathus fuscus*.

Red Salamander—*Pseudotriton ruber*.

Red-backed Salamanders—*Plethodon cinereus*.

Spotted Salamander—*Ambystoma maculatum*.

Two-lined Salamander—*Eurycea bislineata*.

*American Newts—*Triturus viridescens* (Red Eft form).

Carolina Newts.

*Japanese Newts.

Mudpuppy.

INSECTS

Ant Colony.

Beetles—Click—*Alaus oculatus*.

*Grain—*Oryzaephilus surinamensis*.

Ground—*Calosoma calidum*.

Staghorn—*Passalus cornutus*.

Tiger—*Cicindela sexguttata*.

*Water—*Dytiscus*.

Field Crickets.

Mole Cricket.

Termites.

MISCELLANEOUS

*Alligator.

*Chipmunk.

Earwigs.

*Millipedes.

*Red Squirrels (loaned).

*Tarantulas.

*White-footed Mice.

*White Rats.

*—Indicates specimens on exhibit at the present time.

SECTION OF ART

Robert Waterman Gardner, Honorary Curator.

Mrs. F. Winthrop White, chairman Art Committee.

Agnes C. Nash, Museum Assistant in Art.

The activities of this section have included classes in drawing and sculpture conducted by Miss Nash, a succession of exhibits in the Art Gallery directed by the Art Committee, and of exhibits in the main exhibition hall arranged by Miss Pollard. On December 17, 1932, Prof. David Varon, through the assistance of the Carnegie Grant, gave the Institute lecture, under the title "Masterpieces of Art, their Birth and Significance." On May 3, 1932, the Staten Island Association of Architects opened an Architectural Exhibition with addresses by Dwight James Baum and James Bly, president of the New York Society. A feature of the exhibit was the work of pupils in Curtis Evening High School for which prizes were awarded to Frank Lorenz and James W. Laird. The committee in charge was Chester A. Cole, Prof. David Varon, M. S. Diamond, and James Whitford, president of the Association.

The classes in drawing and sculpture were given on Saturday mornings, under the auspices of the Woman's Auxiliary, Mrs. John B. Handley-Greaves, president; they were 38 in number, 9 devoted to soap sculpture, and the work submitted to the National Soap Sculpture Committee. The attendance at the classes was 877, an average of 23 at each meeting. The year began with Design, using Indian symbols in original designs on books, plates, rugs, belts, etc. Christmas cards, winter and spring scenes were the subjects of original designs; Japanese prints were copied as an insight into Japanese Art. The classes have worked also from Life, for which the children posed. Their work will be exhibited during July and August.

The exhibits in the Art Gallery, directed by the Art Committee, Mrs. F. Winthrop White, chairman, Mrs. Henrietta Beaumont, Mrs. Howard H. Cleaves, Miss Emily Jewell, Miss Carolyn C. Mase, Mrs. O. C. Wigand, were:

May to September, 1932.—Bicentennial Exhibition of Colonial Relics. Mrs. Mary Otis Willcox and Mrs. T. Livingstone Kennedy, joint chairmen of Bicentennial Committee, in charge.

September 20 to October 6, 1932.—Work of Museum Drawing Class.

October 10 to 28, 1932.—Tropical Fish, by Olive Earl.

November, 1932.—Annual Exhibit of Staten Island Artists.

December, 1932.—Photographic Exhibit, Mrs. Miriam Campbell Stryker in charge.

January, 1933.—Japanese Prints.

February, 1933.—Work of Richard Kroth.

March, 1933.—Work of Emily Jewell, Walter I. Mattern, and Marie Gore Shanks.

April, 1933.—Flower and Garden Scenes, by Staten Island Artists.

May, 1933.—Staten Island Association of Architects.

Receptions for the exhibitors and their friends were given by the Woman's Auxiliary on November 1, and on April 5; over 3000 names are entered by visitors to the Art Gallery, among them Dr. Marshall A. Howe, of the New York Botanical Garden; Dr. C. Stuart Gager, of the Brooklyn Botanic Garden; Miss Helen E. Cleaves, Art Director, Boston; Miss Annie O. Peet, of the Museum of the City of New York; Mr. Morris E. Siegel, Director of Continuation Schools; visitors from Florida, Colorado, Bermuda, Cuba, Peru, England, Ireland, Norway, Italy; besides many more from distant localities who did not sign the register.

Exhibits other than those in the Art Gallery included old silver and pottery arranged by Miss Pollard, especially of Staffordshire ware given by Miss Cecile Contessa; Soap Sculptures, July 18 to August 13, 1932, also arranged by Miss Pollard; and School Drawings, two weeks beginning May 24, 1933, arranged by Miss Charlotte Livingstone.

On October 6, 1932, a class in Textile Design, assembled by Miss Frances Gessner for teachers of the subject, met in the Museum.

Among the Staten Island artists whose work was exhibited during the year, besides those named above, were: Edith Adams, Arthur Beaumont, Ernest Beaumont, whose untimely death occurred January 1, 1933, Ida Bartella, Frank A. Busing, Bessie Blauvelt, Jeannette Callahan, Louise Cameron, A. E. Darrow, Fernando Pingado, Edith Fichtmuller, Mrs. M. G. Fisher, Elizabeth Gardner, Dolly Goodwin, Mrs. Gerald Griffin, M. Hefti, A. C. Henshaw, Florence Harper, W. Irving Lewis, Joseph Latham, Edna Lawrence, William Hurd Lawrence, Mrs. Bowman Lloyd, Eleanor Marshall, Dorothy Oakes, Nancy Phillips, Grant Rapp, Ethel Ridgewood, Charles L. Schaeffer, Armand Van Pelt, Daniel Hugh Verderer, Otto C. Wigand, besides the children of Miss Nash's classes, and the members of the Art Committee.

SECTION OF BELLES LETTRES

Harry Kuhn, president; Miss Mabel Abbott, secretary.

This section held regular monthly meetings, usually on Sunday afternoons at the homes of its members, with discussions of literature enlivened by music. There were also meetings in the Museum on January 11, 18, and 25, 1933, devoted to Goethe's "Faust," and in April, 1933, devoted to an exhibition of Daguerreotypes, also an annual dinner at the 1700 House.

The translation of the second part of "Faust" was made by Mr. A. W. Callison, and was accompanied by a Greek play presented first at the meeting of October 2, 1932, at the residence of Miss Maud Morgan, repeated at the Museum on January 18, 1933, and again on March 22, 1933, before the Goethe Society in Manhattan. The principal part was taken by Mrs. Ceryl Grimes, assisted by William Sunderman, Miss Virginia Crossman, Miss Lillian Weaver, the Misses Virginia and Elise Thompson, Miss Marjorie Sunderman, Ralph Cronos, and Arthur Andersson. Miss Kay Macnae ac-

ompanied by Miss Sunderman, rendered the vocal solos on January 11 and 25.

The Daguerreotype Exhibition, including also Silhouettes and Miniatures, lasted from April 5 to 29, and was in charge of a committee, A. W. Callisen, Miss J. Dockray, Mrs. H. H. Granger, and Cornelius G. Kolff, chairman. More than 300 items were shown, including portraits of Dr. John W. Draper, at one time a Staten Islander, who made the first photograph of the human face in 1840, silhouettes by Baroness V. Maydell of Jr. and Miss Kolff, and early portraits of members of old Staten Island families loaned by Mrs. D. J. Tysen, Miss Eliza Lake, Mrs. Chas. M. Steinrock, and others.

The regular monthly meetings held at the homes of Miss Morgan, Mr. and Mrs. Willard Grimes, Mr. and Mrs. David Grimes, Mr. and Mrs. Russell S. Coles, Mr. and Mrs. Edward D. Gunnell, Mr. and Mrs. Harry Kuhn, and Mr. and Mrs. Callisen, served for the presentation of papers by Leon L. Daniels, winner in the Short Story Contest, Prof. G. M. Whicher, Prof. David Varon, Miss Mabel Abbott, Miss Alice Lawrence, Mr. George F. Fummel, Mr. Callisen, Mr. Grimes and Mr. Kolff. Miss Morgan entertained the gathering at her home with a Harp Recital.

WOMAN'S AUXILIARY

Mrs. John B. Handley-Greaves, president; Mrs. Harry F. Towle, Mrs. Hermann Lindheimer, Mrs. Anton W. Hoffmeyer, vice-presidents; Mrs. George W. Batz, treasurer; Mrs. Charles L. Schaeffer, recording secretary; Mrs. Willard Grimes, corresponding secretary.

Standing Committees: Program, Mrs. Edward D. Gunnell, chairman; Art, Mrs. F. Winthrop White, chairman; Membership, Miss S. Gertrude Clark, chairman; Motion Pictures, Mrs. Harry F. Towle, chairman; House, Mrs. A. A. Rottmann, chairman.

The Auxiliary during the past year has continued its financial support of the Art classes for children, and through Mrs. White and her committee, of the Art Exhibits which have been increased in interest by the receptions rendered to the artists. An unusual event was the Musicale of October 2, 1932, at the residence of Mr. and Mrs. Ernest Flagg, at which Miss Inaud Morgan, Mr. and Mrs. Flagg, William and Margaret Sunderman were the artists. The attendance was large and the proceeds provided a substantial honorarium to Miss Morgan. The annual luncheon, under the direction of Mrs. Hoffmeyer, was also successful; the guest speaker, Mrs. William Dick Sporborg, was interesting and forceful.

As announced in the Bulletin, the Auxiliary was able early in 1933 to provide half the amount required for cleaning and repainting the walls and ceilings of the lower floors of the Museum. Mr. Davis having provided an equal amount, it was planned to do this much needed work during July, 1933.

The meetings of the Auxiliary were as follows:

October 12, 1932.—Organ Recital and Musicale as noted above.

November 30, 1932.—Colonial Tea with a "Colonial Romance" by Mr. A. W. Callisen, read by Mrs. Chas. E. Simonson, music by Miss Macrae and Miss Sunderman, and addresses by Mrs. David W. Grimes, Mrs. John S. Ware, and Mrs. Willcox. Others who took a prominent part in the success of this meeting were Mrs. Archibald Shields and Mrs. H. H. Granger, Mrs. W. P. McGovern and Miss S. Gertrude Clark, Mrs. A. A. Rottmann, Mrs. Edward D. Gunnell, Mrs. D. W. Mulford, Mrs. Willard Grimes, Mrs. Quimby, Mrs. Boesch, Mrs. Ryan, Mrs. Fuess, Miss Mackie, Miss Anderson, whose colonial costumes added color to the scene.

December 28, 1932.—Christmas Carols, sung by the Mothers' Choral Club, led by Mrs. A. H. Emps, Christmas Tableaux, directed by Mrs. Macdonald Peggs, and a History of Carols by Mrs. Gunnell.

January 15, 1933.—Miss Ann McCabe, after five years of service in China, spoke on "New China."

February 28, 1933.—Reception to the newly elected officers of the New York Federation of Women's Clubs, with an address by Mrs. Malcolm P. MacCoy.

March 29, 1933.—Frank Bosworth, playwright, made an address on "The Drama."

April 26, 1933.—Annual Luncheon, as noted above.

May 31, 1933.—Annual Meeting, at which the officers were all reelected, and motion pictures of "Child Life in the Far East" were shown.

In addition to these regular meetings there were executive meetings, rehearsals, meetings of the Leaders' Conference, and an address at P. S. 18 on "Conservation" by Mrs. Greaves.

HOSPITALITY COMMITTEES

The custom of closing the various meetings with light refreshments, and a social gathering of members and visitors, has been continued. Mrs. H. A. Witte and Mrs. A. A. Rottmann, chairman respectively of the Institute and Auxiliary Committees, have had the assistance of many other members in this feature of our meetings.

STAMP CLUB

The meetings of the Stamp Club, directed by Mrs. P. A. Bonney, assisted by Mr. Frank Becker, were resumed on September 12, 1932, and were held every Monday afternoon at 4 P. M. Through these meetings a knowledge of the geography, history, government, and natural resources of various countries is imparted to the juvenile members of the club. Special exhibits were made of Air Mail Stamps, and of First Day Covers and Cachets of special interest.

NATURE CLUB

Miriam Campbell Stryker, president; Hans L. Stecher, secretary. The proceedings of this club are recorded in detail on a preceding page.

STATEN ISLAND MICROSCOPICAL SOCIETY

Mr. Joseph F. Burke, president. Mr. George E. Ashby, secretary-treasurer.

On October 5, 1932, exhibitors who had participated in the microscopical exhibitions held at the Institute meetings in March of 1931 and 1932 met at the Museum to discuss the organization of a group of microscopists, actively interested, who would meet once a month for a round-table discussion of the microscope in their work, methods followed, apparatus used, and in addition to exhibit specimens of interest to the group, every one being expected to take some part in the meeting. It was agreed to organize as such a group, monthly meetings to start in October each year and end in April, the annual exhibition in March to take the place of the meeting in that month. Exhibits: Dr. William H. Wiegmann showed *Beggiatoa alba* Trevisan var. *marina* Warming (Sewage Fungus) found at Oakwood Beach, Staten Island, N. Y., September 29, 1932, a whitish film on the decaying fronds of the large green "sea-lettuce" (*Ulva latuca* (Linn.) Le Jolie var. *latissima* Le Jolie) and also on mud of brackish marsh. Produces and emits strongly the odor of hydrogen sulphide gas (H_2S). He also exhibited *Burbaunia aphylla* Haller, a grotesque pygmy moss, from Arden, N. J. Mr. George H. Needham demonstrated the Selective Mounting of Diatoms and described the mounting of thin sections of minerals. Mr. Wm. T. Davis exhibited *Grylloblatta campodeiformis*, an insect with structural characters of both the cricket and cockroach, Mr. George E. Ashby a portable field microscope and Mr. Joseph F. Burke microscopic crystals of Zircon and Tourmaline.

Meeting of November 2, 1932. Program: Microscope Accessories and interesting objects. Dr. William H. Wiegmann exhibited a crustose lichen from the top of Mt. Washington, N. H., *Rhizocarpon geographicum* (L.) D.C. and also a mount by Arthur C. Cole of a transverse section of the Thallus of a lichen, *Stricta pulmonacea*. Mr. George B. Wilmott demonstrated the use of a slide made from the color screen of a Lumiere Autochrome Plate as a test for correction of interpupillary distance in a binocular microscope. (Mrs.) Gladys H. Wilmott exhibited portions of grape fern showing stipate glands. Mr. George E. Ashby showed several microscope accessories and mounts of minute cut gems, Diamonds, Rubies, Sapphires and Emeralds, 300 to the Carat or 50,000 to the ounce; also small Diamond crystals and Pearls. Mr. Joseph F. Burke showed a revolving platform to accommodate microscope and lamp for use when several people sit around a table, also two models of tilting ball box mount holders. Capt. Thos. J. Miller showed moisture proof dry cell, moveable glass stage and small mounting stand. Mr. Wm. T. Davis exhibited a worker of the fungus growing ant, *Atta septentrionalis*, from Wading River, Long Island, N. Y. Mr. Rodney B. Miller showed a revolving and tilting box mount holder. Mr. George H. Needham exhibited a goldfish parasite, family Argulidae. Mr. John M. Sheridan reported on collecting fine quartz

crystals, in Montgomery and Herkimer counties, New York, which make fine low-power objects.

Meeting of December 7, 1932. Program: Tools Used in Microscopy and exhibit of interesting objects. (Mrs.) Agnes Vinton Miller showed her method of storing unmounted material: Twelve small boxes selected to fit a larger box, the small boxes each to contain some unmounted object or vials in which objects have been placed; she also showed two mounts, one of *Polycistina* and one of sand moving in fluid. Capt. Thomas I. Miller exhibited a microscope-lamp, made by himself, a box of mounting tools, and a preparation showing spiral fibers in seeds of *Collomia grandiflora*. Mr. George E. Ashby showed tools he had found useful in preparation of botanical, entomological and zoological specimens; he also donated unmounted material for distribution among members. Dr. Frank A. Strauss demonstrated the Photo flood Lamp. Mr. Joseph F. Burke showed a series of tools and a specimen of Sunstone, from Monteaagle Valley, Ontario, which had been polished by George B. Wilmott. Mr. Rodney B. Miller showed several special tools and accessories for mounting. Mr. Wm. T. Davis exhibited the shining slave-maker ant, *Polyergus rufescens lucidus* Mayr. Mr. John M. Sheridan exhibited a Reichert "objective stop" for protecting high-power dry objectives and cover glasses, some fine-pointed tweezers for working under low-powers, and some new fiber dry cells. Dr. William H. Wiegmann showed his tools for and demonstrated his method of sealing cover glasses. He also gave an interesting account of his determination of a specimen submitted at the previous meeting by Mr. Rodney B. Miller; the specimen consisted of two distinct parts of widely separated vegetable classes: The operculum of the moss *Bryum caespiticiun* was resting on the sclerotium of a myxomycete, probably *Cibraria aurantiaca*.

Meeting of January 4, 1933. Upon motion of Capt. Thomas I. Miller, seconded by Mr. George E. Ashby, it was decided to organize as the "Staten Island Microscopical Society." Mr. Joseph F. Burke, who had been acting chairman, was elected President and Mr. George E. Ashby was elected Secretary-Treasurer. Program: Marine & Pond Life Equipment. Mr. George E. Ashby exhibited several Zoophyte troughs of different patterns, donating these to the Society. He read a short paper on "Insects in Fossil Resins." (Mrs.) Agnes Vinton Miller showed two Holman Life Slides and a series of photographs of Pond Life trips. Capt. Thomas I. Miller showed plankton and pond-life nets with accessories and a slide of a marine hydroid, mounted in formalin in a concave slip. Mr. Rodney B. Miller showed a Norton Animalcule Collector and a Funnel Top Pipette, giving references to both in literature. Mr. John M. Sheridan gave a short account of pond-life collecting with a list of equipment he found useful. Mr. Joseph F. Burke exhibited a McAllister compressor. Dr. Frank A. Strauss gave a summary of an article on the Microscope-Centrifuge. Dr. Wm. H. Wiegmann showed a collecting funnel, Mr. George H. Needham a gun-rod collecting device, Mr. Wm. T. Davis a specimen of fairy shrimp and Mr. George B. Willmott a temporary

mount of *Utricularia*, with *Paramoecia* in active motion in the same field, one of which was captured and retained by a bladder on the plant.

Meeting of February 1, 1933. Program: Mounting of Microscopical Objects. Mr. George E. Ashby demonstrated a rapid method of mounting such objects as sands, mineral crystals, foraminifera, shells and so forth, as opaque objects by use of sheet wax. Capt. Thomas I. Miller exhibited specimens of marine and fresh-water life, and minerals including a specimen of Apophyllite from Bennett's Quarry. (Mrs.) Agnes Vinton Miller showed a small botanical microscope for field use. Mr. Joseph F. Burke showed a mount of tourmaline from Bedford, N. Y. Demonstrations were given by Dr. Wm. H. Wiegmann on botanical mounting, by Mr. Rodney B. Miller on mounting of mosses in glycerine jelly, and by Mr. George H. Needham on balsam mounts. Mr. Wm. T. Davis showed a collection of diatom slides recently acquired. Reports were made by Mr. John M. Sheridan on the use of clove and thyme oils, by Mr. Frank M. Ashley on the microscopical use of cellophane and by Mr. George B. Wilmott on metals cells for mounting.

Institute Meeting, March 18, 1933. Annual Exhibition. Directed by the Staten Island Microscopical Society.

Meeting of April 5, 1933. Program: Manipulation of Microscope and Lamp. Mr. Joseph F. Burke gave a paper outlining the requirements of satisfactory illumination and telling how by observation principally at two points in the system he could check up as to whether he was fulfilling these requirements. This was preliminary to a discussion by him on the means to be used to obtain good results with objectives of low power up to 16 millimeters in focal length. This talk was followed by one in which Mr. George H. Needham explained the methods for obtaining satisfactory results with the higher powers including the 8, 4, and 2 millimeter objectives. Demonstrations were given by both speakers showing the results obtained. Mr. Frank M. Ashley exhibited a microscope lamp he had made and another made by Mr. George B. Wilmott was used in Mr. Needham's demonstration. Capt. Thomas I. Miller exhibited specimens and radiographs of sand from Wolfe's Pond Beach. Mr. Irving Banner spoke on equipment used in the illumination system. Mr. George E. Ashby read a short paper on the origin of glass making.

Institute Meeting, May 20, 1933. Mr. Robert Hagelstein, "The Myxomycetes or Slime-Molds." Under arrangements made by the Staten Island Microscopical Society.

ATTIC CLUB

The Attic of the Museum continues to house the historical and scientific collections of the president of the Institute, Mr. William T. Davis. A great part of his collection of books, and of the scientific library of the Institute are also housed in the attic. It has become to some extent the research department of the Museum and, as such, has attracted many visitors. The staff of the Museum, including volunteer workers, is barely a dozen men and women; the records of the past year show more than 100

persons contributing to the success of our exhibitions in art, history, horticulture, and microscopy, and fully 60 more who took an active part in organizing the features of the year. Of these persons without whose help the staff could not have carried on all the varied events, many are among the visitors to the attic and have come to be known as the Attic Club.

Some like Mr. Loring McMillen, Mr. Howard R. Hill, Dr. L. M. A. Haughwout, are interested in historical matters and find a wealth of material there. In the sets of Staten Island newspapers the material there could not indeed be found elsewhere. Some are entomologists, even from such distant parts as California, attracted by the collections in the attic, which in American Cicadidae are not elsewhere of equal magnitude. Some are botanists, attracted by the plant collections, which in the inclusion of Dr. Philip Dowell's Ferns and Violets, as well as the herbarium of Mr. Davis, constitute material, still unpublished for a Revised Flora of Staten Island.

The living inhabitants of the attic, if the snakes, turtles, mice, lizards, fish, molluscs, frogs, salamanders, insects, &c., under the care of Mr. Stecher and Mrs. Bonney, are included, are far in excess of the number of other Attic Club members. They perhaps are responsible for the welcome visits of Mr. and Mrs. Wilmott, Miss Emilie O. Long, Mrs. Nichol; Mr. and Mrs. Cleaves, and many other biologists.

Of visitors, distinguished by their degrees as well as their works, the Attic Club has had recently Dr. Britton, Dr. Howe, and Dr. Gager among botanists, Ernest G. Holt and Dr. Chapin, ornithologists, C. R. De Sola and Maj. Chapman Grant, herpetologists, Dr. Leonard, entomologist, Dr. Strauss, chemist, also Charles C. Stoddard and Dr. Callisen, Staten Island's only "Uncle Toby." It is perhaps the most unique feature of our Museum, and certainly among its valuable adjuncts.

EDUCATIONAL PROGRAM

The program presented in our last annual report has been continued with expansion in several directions, especially in regard to school service. Classes from P. S. 16 came every Thursday during the season for illustrated lectures correlated with the subjects of their studies. The attendance at lectures given in the schools by Mr. Stryker showed an increase of 50% over the preceding year.

Our lantern slide collection, the basis of the lectures given in the museum and elsewhere, was increased during the year by the assistance of the Carnegie Grant, to cover more completely the early period of American history, some industrial subjects like coal mining for which we had requests; and to fill certain gaps in geographical and zoological lectures. The schools which received service by lectures or otherwise were P. S. 11, 12, 16, 17, 18, 20, 22, 29, 30, 39, 40, 44, 45, 48, 147 (Manhattan), Curtis and Port Richmond High, Hunter College Class in Geology, Continuation, Arden, Willard-Mundorf, Dongan Hall, St. Mary's and Staten Island Academy.

Apart from service to the schools, our program included for children the Museum Woodcraft, more particularly described below, which by the help of the Carnegie Grant, was extended to Tottenville. An extension in Westerleigh was also established by the contributions of residents of that section of the Island. The Stamp Club on Monday afternoons, the classes in Drawing and Sculpture on Saturday mornings, and the instruction in Handicraft all day Saturdays by Miss Marion Olwig, are also among the educational features of our program for children. Docent service in the use of books in the library, and in the explanation of exhibits, is constantly maintained by Miss Pollard, qualified by twenty-five years' experience, Mr. Carlton Beil, whose ability as docent is gratifying, and Mr. Hans L. Stecher, responsible for the Museum Zoo, described above. Cooperation with organizations like Boy Scouts, Girl Scouts, Camp Fire Girls, is included in tests for honor claims given by Mr. Stryker, Mr. Beil, or other members of the staff, and in the use of our auditorium for Scout Leadership Courses.

Educational features for adults, other than our publications, comprise the use of our exhibits and library with the aid of the staff in identification of specimens and in historical research. These features are conducted in part in conjunction with our affiliated societies, Staten Island Bird Club, Horticultural Society, Microscopical Society, Nature Club, Historical Society, in part by the accommodation we are able to give groups like United Parents Association, League of Women Voters, Professional Engineers, &c. To these has lately been added a recently organized Aquarium Society. Our Institute lectures supplied in part by members of these groups, in part from the income of the Carnegie Grant, are addressed to adult education; and a considerable part of the daily duties of the curators is devoted to technical instruction. During the past year, lawyers and engineers engaged in defending Lancaster Symes suits have been frequent visitors on historical matters; and almost every night, as well as day, natural history students have gathered in the attic as guests of Mr. Davis and Mr. Stecher.

Our Proceedings, published with the assistance of the Carnegie Grant, appeared in January, 1933, and contained the conclusion of Anthon's Notes, written about 1851, the records of the Nature Club, and Mr. Wilmott's account of our Salamanders. The monthly Bulletin, though crowded with official notices, contained also many educational items.

STATEN ISLAND MUSEUM WOODCRAFT

Carol Stryker, head guide.

The group of young people and adults included under this title aim to reach a knowledge of biology by outdoor study, coupled with indoor meetings enlivened by song and Indian symbolism. The adult tribe, We-Kon-Ton-Ka, resumed its meetings September 21, 1932, and continued on the first and third Wednesday of each month. Among the features of these meetings were:

October 19, 1932.—Mushrooms, stressing different families, Eleanor Crandall.

- November 2, 1932.—Chip Carving demonstrating tools and methods used to produce varied results, Carlton Beil.
- November 16, 1932.—Questionaire Nature Trail, specimens and illustrations of nature subjects, Tillie M. Rouse.
- December 7, 1932.—Making a War Bonnet, Elwood Logan.
- December 21, 1932.—Winter Stars and Constellations, Arline Cornell.
- January 4, 1933.—Winter Birds, approached from the angle, "Can we see this bird now?" Carol Stryker.
- January 18, 1933.—Winter Tree Buds, illustrated with labelled specimens, Marion Olwig.
- February 1, 1933.—Tom-toms and Drums, describing origin, history, types and uses, Paul Kuhn.
- February 15, 1933.—Rope Knots and their uses, Danny Neubourg.
- March 15, 1933.—Snakes, shown by living specimens, Hans L. Stecher.
- April 5, 1933.—Metal Jingles, how made and used, Carlton Beil.
- May 3, 1933.—Night Sounds, with imitations of frogs, toads, birds, &c., as heard at night, Carlton Beil and Carol Stryker.
- June 7, 1933.—Moths and Butterflies, with methods of collecting, mounting, &c., illustrated by motion pictures, Elwood Logan.

The outdoor activities of this tribe included the following events :

- October 9, 1932.—Participation in Nature Club expedition to "Slabsides," conducted by Farida H. Wiley, of American Museum of Natural History.
- October 12, 1932.—Outdoor Supper, directed by Elwood Logan and Carlton Beil.
- December 3, 1932.—Field Trip, led by Carol Stryker.
- December 31, 1932.—Three Day Trip to Logan Farm, Connecticut.
- February 22, 1933.—Jones Beach, Long Island.
- April 28, 1933.—Three Day Trip to Pine Barren, New Jersey.
- June 11, 1933.—Vigil and Naming Ceremony.

The Junior tribes assembled September 13, 1932, and met every Tuesday, Wednesday, Thursday and Friday at 4 P. M. in the Museum; and on the third and fourth Saturday of each month met at 10:30 A. M. for an all-day field trip. These tribes had also opportunities on Saturdays for instruction in Handicraft and preparation for honor claims by Miss Marion Olwig. They were all under the direction of Mr. Carol Stryker, assisted by Mrs. Stryker, and Dakin Horn and Irma Thompson as junior leaders. From Dakin Horn came the valuable suggestion that special topic for each field meeting be announced in advance.

Occasionally tribal meetings were consolidated; on November 14-18, 1932, members of all tribes were invited to contribute to the Conservation Exhibit at the Hotel Astor; on December 4-15, 1932, they took part in the Children's Fair at the American Museum of Natural History; and on December 10, 1932, held a Grand Council in the Museum. At the close of the season, overnight

camps were arranged on June 2, 3 and 4, on the estate of Mr. and Mrs. Neumann at Long Branch, N. J., and on June 23 and 24, at the home of Mr. and Mrs. Steadman at Huguenot. The ninth annual Grand Council, in which the Tottenville and Westerleigh tribes participated, was held in the Museum on June 21, 1933; the following ranks were awarded on the basis of honors earned during the year: Grand Sagamore, Eleanor Crandall; Sagamore, Irma Thompson and Dakin Horn; Firekeeper, (48 honors), Cornelia Benson, Jean Stuart, and Ethel Rayner; Water bearer, (24 honors), Robert Wigand, Jr., Margaret Soriano, and Thomas Soriano; Woodman, (12 honors), Dorothy Soriano, Ladd Harris, Alice Olsen, and Sonya Guttenberg.

AFFILIATED SOCIETIES

STATEN ISLAND BIRD CLUB

Howard Henderson Cleaves, president; William T. Davis, Mrs. H. M. Trench, Mrs. L. A. Dreyfus, Dr. Frank A. Strauss, vice-presidents; Charles W. Leng, secretary-treasurer; Carol Stryker, field-secretary.

This club, founded in 1914, has continued its support of the National Association of Audubon Societies, its maintenance of winter feeding stations for birds, its lectures on birds, and its monthly walks afield, these sometimes ending in social meetings at members' homes.

In the maintenance of feeding stations, extended this year to the Boy Scout Camp at New Dorp, the club has had the assistance of members of the Woodcraft tribes in the distribution of the feed, and, in the care of the feeding stations, of Boy Scouts and of the following members, Mrs. Trench, Mrs. Rottmann, and Miss Elizabeth Smith.

The members at whose homes social gatherings were held were Mrs. M. A. Seery, Mrs. Viola Fuller, Mrs. W. T. Ligh, Mrs. T. Johnson, and Mr. and Mrs. Cleaves.

The Christmas Bird Census was taken by members of the club; it is included in the Nature Club report, and was printed in "Bird Lore."

Among the notable events of the year were the visit to the Island on November 19, 1932, of Dovekie, *Alle alle*, and the announcement in the January BULLETIN that the National Association of Audubon Societies had selected Staten Island for a bird sanctuary.

HORTICULTURAL SOCIETY OF STATEN ISLAND

Fred S. Heal, president; Frank P. Baumann, secretary.

Under the sponsorship of this society five flower shows were given in the Museum, each lasting for three days. These were:

Iris Show, June 4, 5, and 6, Fred A. Holder-Egger, manager.

Rose Show, June 11, 12, and 13, Mrs. H. E. Marshall, manager.

Gladiolus Show, August 20, 21, and 22, Herbert Backofen, manager.

Dahlia Show, September 24, 25, and 26, John Rader, manager.

Chrysanthemum Show, November 5, 6, and 7, Frank Baumann, manager.

No prizes were awarded at the Iris Show; for each of the other shows the flowers were judged, Roses and Dahlias by Kenneth Boynton, of the New York Botanical Garden; Gladiolus by H. Rynierse and Fred A. Holder-Egger, and Chrysanthemums by T. A. Weston, of the Florists' Exchange.

The exhibitors at the flower shows were: Mrs. Walter Booth, Mrs. William Birmingham, Mrs. R. G. Bryant, Herbert H. Backofen, R. C. Benedict, Frank P. Baumann, G. Ballwig, Frank S. Cooke, Robert S. Cox, C. Carlsen, Arthur Cavenagh, Mrs. Louis A. Dreyfus, Mrs. Fred H. Davidson, Fred D. Drake, Mrs. Viola Fuller, Mrs. C. F. Grieshaber, Mrs. Fred S. Heal, Mr. and Mrs. Fred A. Holder-Egger, Mrs. Arthur E. Hensler, Albert W. Hotz, Harrison Johnson, Herbert Kolb, Mrs. Morris A. Lunn, Mrs. C. W. Leng, Mrs. Oscar Loeffler, M. Lehn, Mrs. Homer E. Marshall, M. Milson, B. Munro, Mrs. Joseph Neumann, Anton J. Neumann, Hans Olsen, Mrs. W. H. Pott, Harry Quirk, John Rader, William Romer, Dorothea C. Stuart, Charles M. Steinrock, Mrs. F. C. Townsend, R. D. H. Vroom, James Vines, J. Mortimer Vanderbilt, R. C. Wigand, George Weber, and the estate of Joel A. Cooley.

Annual Reports

BOARD OF TRUSTEES

MAY 20, 1933

The Board of Trustees herewith presents its annual report. It records with sorrow that death has taken several of our older members, including Ernest Beaumont, William Prall, and Howard R. Bayne, for 25 years president of the Institute, and one of the few surviving founders, Dr. Arthur Hollick. It must also record that, in common with other institutions, we have felt the effects of the prevailing depression, from which, however, we have been largely relieved by the generosity of our president.

Mr. Davis has added one thousand dollars to the Natural Science Fund, which he established in 1931 as a semi-centennial gift, and in many other ways has contributed financial as well as scientific support. In addition to his continuously valuable support the Board records, with gratification, the activities of many of our younger members, showing present progress in each department of the Institute, and indication of further future progress under their guidance.

At this time, it may be well to recall that the primary object of the Institute, as established more than fifty years ago, is to form a collection especially of Staten Island objects; to this was added, when twenty-five years ago the Natural Science Association became a public institution, the duty of making these collections of service to the public. The honored president of our great sister institution, Dr. Henry Fairfield Osborn, of the American Museum of Natural History, indeed affirms in retiring after 25 years of service, as a principle for its guidance, that public education is its first duty.

Considering our collections, however, as the basis upon which all our other activities must rely, the Board first reports with gratitude the rearrangement of our extensive collection of books and pamphlets by Mr. Joseph F. Burke. In the physical labor involved he was ably assisted by Mr. Harrison Johnson and Mr. Hans L. Stecher, and financially by our president, who contributed the additional steel shelving required as well as much technical advice. The growth of our library is gratifying; from the income of the John J. Crooke Fund, established by Dr. and Mrs. N. L. Britton, annual additions to the books on natural science are made, while other additions accrue from exchanges and gifts.

The Museum Zoo, under the direction of Mr. Hans L. Stecher, whose services are provided by Mr. Davis, has been enlarged during the year, and has enlisted the support of Mr. Harold J. O'Connell, and the daily attendance of Mrs. P. A. Bonney. Constant additions to its living plants and animals have been made during the year. Among

such have been a Staten Island chipmunk from Mr. Harrison Johnson; fairy shrimp brought from Connecticut by Mr. Carlton Beil and Colombian Jays obtained by Mrs. Bonney.

The collection of Staten Island shells has been enlarged and rearranged by Mr. Stecher; and a special exhibit of Pearl Shells was loaned by Mrs. Thomas I. Miller.

Our knowledge of Staten Island Salamanders has been increased by the investigations of Mr. and Mrs. George B. Wilmott, and our collection has been improved by the preparations made and colored by Mr. Beil.

Additions to the Geological and Mineral collection have been made by Mr. John Rader, Mr. Burke, Capt. Thomas I. Miller and Mr. George E. Ashby. The latter has also made a special exhibit of Fossilization, and Mr. John M. Sheridan has made a special exhibit of Quartz.

The Staten Island Bird Club has added to our Mammal collection specimens of the Hoary Bat and a young opossum.

The Woodcraft Group has presented a mounted specimen of a skunk, now believed to be extinct on Staten Island, and specimens of the unusual animal visitors of the last year, the Dovekie, the Chub Mackerel, and the White Geometrid Moth, have been added to the collections, either of the Institute or of Mr. Davis.

Mr. Loring McMillen has discovered several hitherto unknown maps of the Island, showing its old roads and buildings; aided by these and by his knowledge of the date at which various building materials came into use, he has succeeded, assisted by Mr. Howard Hill, in locating a considerably increased number of our old dwellings, mills, etc. Meanwhile the researches of Dr. L. M. A. Haughwout, assisted by Messrs. Remington and Birdsall, and those of Mr. Davis, into old deeds and documents, have disclosed the names of the occupants at various periods. An especially notable achievement of Mr. McMillen is the construction of a map of Staten Island, as it was during the Revolution, with the dwellings of 264 families indicated by name.

An extraordinary historical addition to our collections came in the loan by the Dutch Reformed Church, through Rev. Frank S. Fry, of the piece of sandstone inscribed Anno 1715, which is believed to have been part of the original church erected in that year, and the oldest inscribed stone on Staten Island.

From Miss Cécile Contessa additions to our collection of the potters art have been received, and from Mr. Winthrop Hillyer Duncan many documents, magazines, and books of historical importance.

Turning now to the use we have made of our facilities for public education, we can report that, materially aided by the grant of the Carnégie Foundation, by the assistance of Mr. Hans L. Stecher, and by the popularity of Mr. Carol Stryker as a lecturer, our contacts with the schools of Staten Island have increased 50%. In addition to the Friday afternoon lectures for children, covering the history of the

United States with special reference to Staten Island and the natural history of the Island, we have reserved Thursday afternoons for the classes regularly brought to the museum from P. S. 16, for lectures correlated with the subjects the class involved was studying. Besides these regular visits we have had occasional visits from 16 other schools, viz.: P. S. 11, 12, 17, 20, 22, 39, 40, 44, 45, 48, Curtis H. S., Hunter College, Staten Island Academy, Willard-Mundorf, Arden, Dongan Hall, with educational talks in the exhibition hall by Mr. Biel, Miss Pollard, and others, as well as stated lectures.

The culmination was reached in April of this year when a total attendance for the month of 4,108 passed all previous records. For schools beyond walking distance the Woodcraft method, with the aid of the Carnegie grant, has been extended to Tottenville. Mr. Stryker and Mr. Stecher have been called to lecture at P. S. 18, Port Richmond H. S., Continuation School, and various clubs, etc., besides speaking before the general assembly at some of those previously mentioned, involving a total attendance outside the museum of 6043.

We value most, however, the repeated attendance of the children who become actively interested in our efforts to promote intellectual intercourse on Staten Island. For children these include the Stamp Club on Monday, conducted by Mrs. Bonney, the Woodcraft Groups, junior and senior, on Tuesday, Wednesday, Thursday and Friday, and classes in Drawing and Sculpture, conducted by Miss Nash. Her report upon the activities of the Art Department is attached. In various ways we have aimed to make these meetings attract a steady attendance in the hope that among their juvenile members may arise future adult members of the museum and its affiliated societies.

And to some slight extent such has already been the case. The Adult Woodcraft Group takes young people of 17 or 18 whose atavistic tendencies delight in campfires and Indian suppers, but nevertheless are equally delighted with the natural history of the seashore and the pine barrens. The meetings of the Nature Club, less formal than those of the Institute are the next step. Thereafter the Microscopical Club, the meetings of the Woman's Auxiliary, the Bird Club, the Horticultural Society, the Belles Lettres Section, as well as those of the Institute, provide for the varied tastes of the adolescents. Beyond such meetings the museum is glad to extend its hospitality to organizations of kindred objects which desire to meet in its auditorium, the Architects Society, Boy Scouts, Girl Scouts, Camp Fire Girls, Alden kindred, etc., and even to extend its service beyond the museum to organizations like the newly formed Aquarium Society which profits by Mr. Stecher's advice.

Separate reports of the outdoor activities of the Bird Club and the Woodcraft Group, of the Woman's Auxiliary and the Art Committee, and of statistics of attendance and exchanges are attached. It only remains to mention some of the memorable events of the past year, among which we record with pride the honors conferred upon two of

our members, Dr. James P. Chapin, whose "Birds of the Belgian Congo," as stated in the annual report of the American Museum of Natural History, "will rank among the most important contributions to ornithology yet made in this country," and Dr. N. L. Britton, who besides the honors conferred by the Government of Porto Rico, has received the Pugsley medal of the American Scenic and Historic Preservation Society for his 33 years work in the New York Botanical Garden.

Amid the multitude of George Washington Bicentennial events, the Colonial Exhibit in the Museum, directed by Mrs. Wm. G. Willcox and Mrs. T. Livingstone Kennedy, will live in our memories as an admirable and successful exhibition which lasted all summer and was visited by many people. The musicale of October 12 at the residence of Mr. and Mrs. Ernest Flagg, with the display of their own and Miss Maud Morgan's talent, is also among the happiest memories of the year.

The annual luncheon of the Woman's Auxiliary, under the management of Mrs. A. W. Hoffmeyer, with the assistance of Mrs. Witte and Mrs. Rottmann, representing the Hospitality Committee, and of Miss S. Gertrude Clark, was an example of the social features which characterize our meetings.

The use of the museum by an appreciative public is manifested by the numerous individual applications for information on scientific and historical subjects, by the attendance at the flower shows, art exhibits, and other functions. If attendance is a criterion of progress our 51st year surpassed all previous years with its record of 42,652 persons reached in or outside the museum, as shown by the careful statistics kept for 25 years by Miss Agnes L. Pollard.

RECORDS OF ATTENDANCE IN THE MUSEUM FOR THE FISCAL YEAR
MAY 1—APRIL 30, 1932-33

Daytime attendance	32,137
Evening attendance	4,062
Total	30,199
Meetings were held during the year by the Woman's Auxiliary at Mr. Flagg's house and at The Stuyvesant with an attendance of . .	410
Lectures were given at schools, public and private, at women's clubs, men's clubs, etc., by Mr. Leng, Mr. and Mrs. Stryker, and Mr. Stecher, with a total attendance of	6,043
	42,652

The number of meetings in the Museum during the fiscal year was 573, and the month of April, 1933, gave us a record attendance of 4,108, the largest daytime attendance of any month in the history of the museum.

RECORD OF ACCESSIONS TO THE MUSEUM AND LIBRARY DURING THE FISCAL
YEAR

Zoology	9
Geology and Mineralogy	22
Arts and Antiquities	17
Books (Gifts)	42
Books (Purchase through Crooke Fund)	30
Magazines (Gifts)	4
Magazines (Purchase through Crooke Fund)	4

 128

In addition to the above 411 exchanges were received.

LIST OF DONORS

George E. Ashby	John D. Humphries
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Through Winthrop Hillyer Duncan we regularly receive—The American Book Collector.

Through the Lewis Historical Publishing Co.—Americana.

Through Mr. L. G. Lyon and Wm. H. Mitchill—The National Geographic.

And through Mrs. Thomas I. Miller—The Geographical Review.

100. STATEN ISLAND INSTITUTE OF ARTS AND SCIENCES

REPORT OF THE TREASURER

MAY 20, 1933

INCOME

Balance last report	\$ 702.53
Receipts	2,400.07
	\$ 3,102.60

OUTLAY

Paid for printing, etc.	\$2,154.20
Paid on account of loans	250.00
	2,404.20
Balance, cash in banks	\$ 819.30

ASSETS

Cash in banks	\$ 819.30
John J. Crooke Fund	2,000.00
D. M. Van Name Fund	100.00
Permanent Fund	3,700.00
R. F. Nause Mortgage	10,000.00
Natural Science Fund	3,121.00
	\$10,740.30
Liabilities, \$9,450.00.	
City appropriations for calendar year 1933	\$12,860.00

PUBLICATIONS OF THE INSTITUTE

PROCEEDINGS OF THE NATURAL SCIENCE ASSOCIATION OF STATEN ISLAND

These PROCEEDINGS were printed in octavo numbers, partly in leaflet partly in pamphlet form, from November 10, 1883, to June 3, 1905, are included in nine volumes, separately indexed.

They may be obtained by members and patrons at \$1.50 per volume. To others the price per volume is \$3.00.

PROCEEDINGS OF THE STATEN ISLAND ASSOCIATION OF ARTS AND SCIENCES

These PROCEEDINGS are in 8vo parts, 4 parts to a volume except v. 7, which was issued complete in one part. They contain the scientific and other records of the meetings of the Association and consist of v. 1-7, 1905-May 1918.

By resolution of the Association all members and patrons may obtain 4 parts at 35 cts. or back volumes at \$1.25. To others the price is 75¢ per part or \$3.00 per volume for both current and back issues.

PROCEEDINGS OF THE STATEN ISLAND INSTITUTE OF ARTS AND SCIENCES

Form and price same as PROCEEDINGS of the Association.

These PROCEEDINGS contain historical, scientific, and other articles, as well as records of the meetings of the Institute, and the current issues are free to patrons and to members in good standing.

VOL. 1, Oct. 1918-May 1922, p. 1-165, *pl.* 1-4. 1923.

VOL. 2, Oct. 1922-May 1924, p. 1-186. 1924. (Pt. 1, Special Issue.)

Special Issue, Jan. 1924. List of the Coleoptera of Staten Island, by Charles W. Leng and William T. Davis. 82 p. and index. Price \$1.25.

VOL. 3, Oct. 1924-May 1925, p. 1-154. 1926.

VOL. 4, Oct. 1925-May 1927, p. 1-138, *pl.* 1-4. 1928.

VOL. 5, Oct. 1927-May 1930, p. 1-205. 1930-1931.

VOL. 6, Oct. 1930-May 1932, p. 1-220, *pl.* 1-8. 1931-1933.

Special Issue, Nov. 12, 1931. History of the Staten Island Institute of Arts and Sciences, prepared for Semi-Centennial Meeting; list of members included. 24 p. illus. Price 50 cts.

4. THE MUSEUM BULLETIN

Monthly octavo leaflets, containing official notices of meetings of the Institute and sections, important items of business transacted by the Board of Trustees, and descriptive items concerning the museum exhibits and activities. Begun in August 1908. Current numbers sent free on application. Back numbers 2 cents each.

Checks should be made payable to the Staten Island Institute of Arts and Sciences, and all remittances and communications addressed to

The Staten Island Institute of Arts and Sciences,
Staten Island, N. Y.

MUSEUM STAFF 1932-1933

<i>Director</i>	Charles W. Leng, B.Sc.
<i>Curator</i>	Agnes Lyman Pollard
<i>Assistant Curator</i>	Carol Stryker
<i>Educational Assistant</i>	Agnes C. Nash
<i>Janitor</i>	Harrison Johnson
<i>Museum Guard</i>	Carlton Beil
<i>Night Watchman</i>	William E. Johnson

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PROCEEDINGS
OF THE
STATEN ISLAND INSTITUTE
OF
ARTS AND SCIENCES

EDITED BY
CHARLES W. LENG, WILLIAM T. DAVIS
JOSEPH F. BURKE
PUBLICATION COMMITTEE

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Issued May 3, 1935
Staten Island, N. Y.
THE SCIENCE PRESS PRINTING COMPANY
Lancaster, Pa.

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* Deceased June 25, 1934.

** Deceased September 8, 1934.

PROCEEDINGS
OF THE
STATEN ISLAND INSTITUTE
OF
ARTS AND SCIENCES

VOLUME VII

OCTOBER 1933—MAY 1934

EDITED BY THE PUBLICATION COMMITTEE
CHARLES W. LENG, WILLIAM T. DAVIS
JOSEPH F. BURKE

PUBLISHED BY THE
STATEN ISLAND INSTITUTE OF ARTS AND SCIENCES
STATEN ISLAND, N. Y.

1935

THE SCIENCE PRESS PRINTING COMPANY
LANCASTER, PA.

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PROCEEDINGS
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ARTS AND SCIENCES

VOL. 7

OCT. 1933-MAY 1934

PARTS 3-4

Nathaniel Lord Britton

On June 25, 1934, after four months' illness, Dr. Nathaniel Lord Britton, one of the three men who on September 9, 1881, issued the call for the founding of this Institute, closed a career notable for its scientific accomplishments and for the honors those accomplishments brought to him.

His life history is a simple one, characterized by early thorough education, followed by the fulfillment of one task after another, each exhibiting the independence and maturity of thought, the scientific precision, the constancy of purpose, and the genius for organization, which made his work so successful.

He was born at New Dorp, Staten Island, on January 15, 1859, and was designed by his parents, it is said, for the church. The influence of a neighbor, John J. Crooke, who, being of considerable scientific attainments himself, appreciated the boy's latent ability, led to his being sent to the School of Mines in Columbia University, where he graduated as Mining Engineer in 1879, with such credit as to be appointed assistant in geology, a position he retained until 1886. During these seven years he was also assistant geologist and botanist to the Geological Survey of New Jersey, 1880-1890, and field assistant to United States Geological Survey, 1882. "The Geology of Richmond County, N. Y.," read before the New York Academy of Sciences, April 4, 1881, and published in its *Annals*, was his first contribution to that science, and exhibits the maturity

of thought and the assiduous study by which his degree of Doctor of Philosophy was earned in 1881.

His interest in geology was from an early period combined with the study of botany. "The Flora of Richmond County, New York," prepared in conjunction with Arthur Hollick, appeared as a pamphlet privately printed in 1879, and was followed by seven appendices, 1880-1895. "A Preliminary Catalogue of the Flora of New Jersey" was published in 1881, and the completed "Catalogue of the Plants of New Jersey" in 1889.

Dr. Britton married August 27, 1885, Elizabeth Gertrude Knight, who being a specialist in mosses, and learned in botany generally, doubtless intensified his leaning towards that science. In 1886 he was appointed instructor in botany at Columbia College, in 1887 also instructor in zoology; in 1890 he was promoted to adjunct professor, and from 1891 to 1896 he was professor of botany. In 1896 the first edition of "Illustrated Flora of the Northern United States and Canada," written in conjunction with Addison T. Brown, appeared. Mrs. Britton has told us of the years of work, in part at least in the Britton Cottage on New Dorp Lane, devoted to the production of these three volumes, in which an illustration accompanies each description. They were also years of privation for the slender salary of an instructor in botany was largely required for the purchase of books of reference. The success of the work when published was phenomenal. Reprinting was repeatedly required, and a second edition was published in 1913. The family home at 2965 Decatur Avenue, Bronx, was paid for, Mrs. Britton has told us, from the royalties received.

In 1896 Dr. Britton became professor emeritus at Columbia, and commenced one of his greatest works, the creation of the New York Botanical Garden. As secretary of the New York Horticultural Society, and editor of the Torrey Botanical Society Bulletin, he had hoped and worked for this project; and it was eminently fitting that he should be the first director-in-chief; but, as he told us, the honor was totally unsolicited and unexpected. It proved a fortunate selection for, with his skill in organization, the garden has grown during his 33 years' incumbency, to be the third largest botanical garden in the world.

Honors were from this time bestowed upon him by many organizations, among which may be mentioned American Association

for the Advancement of Science, of which he was vice-president in 1896; Botanical Society, president in 1898; New York Academy of Sciences, vice-president 1901, president 1907; Carnegie Institution, adviser in botany 1902, member of biological board 1908; Columbia University, honorary doctor of sciences 1904; University of Pittsburgh, honorary LL.D., 1912.

His pen was never idle; besides many short papers and descriptions, he published in 1901 his "Manual of the Flora of Northern States and Canada," and in 1908 his "North American Trees"; he was next occupied with much preparation for the second edition of the "Illustrated Flora." He never ceased his personal collections for the herbarium in the Botanical Garden but, as time went on, he extended his travels to the countries south of us. In those in which the Spanish language was spoken, Mrs. Britton, whose girlhood was partly passed in Cuba, was of assistance. The "Flora of Bermuda," published in 1918, and "The Bahama Flora," published in 1920, with C. F. Millspaugh, M.D., were among the results of these travels. Four volumes on "The Cactaceae," by Dr. Britton and J. N. Rose, copiously illustrated with colored plates and published by Carnegie Institution 1919-1920, followed.

The "Scientific Survey of Porto Rico and the Virgin Islands" began to seriously occupy Dr. Britton's attention in 1913, when he became chairman of a committee thereon appointed by the New York Academy of Sciences. He and Mrs. Britton thereafter spent a part of nearly every winter in the islands studying their geology and flora, and organizing studies on the fauna. Eighteen volumes, by various authors, each in four parts, are now either published or in preparation. Of the first four volumes on Geology, four parts only remain unpublished. Volumes V and VI, on the Flora by Dr. Britton and Percy Wilson are complete. Volumes VII and VIII on Plant Ecology, Bryology, Mycology, etc., are more than half done. The ten volumes on the Fauna are finished for Mammals, Birds, Reptiles, Fishes, Ascidiens, Diptera, Moths, Odonata, Crustacea, Echinoderma, and are in preparation for all but about one quarter. About fifty naturalists besides Dr. Britton himself have been engaged in the preparation of manuscript for these volumes, the cost of which has been borne by the Government of Porto Rico, the New York Academy of Sciences, and Dr. Britton's personal resources. The number of men and women who, under Dr. Britton's

leadership, have contributed to the success of the undertaking by collecting and studying specimens, is probably nearly five hundred.

In 1930, having passed his seventieth birthday, Dr. Britton resigned the directorship of the New York Botanical Garden and was elected director-emeritus by its trustees. The Inter-American Conference on Agriculture on September 19 passed a resolution recognizing the valuable services of Dr. and Mrs. Britton in the study of the West Indian Flora; the Committee on Mineral Resources of Porto Rico elected Dr. Britton its honorary chairman in recognition of his twenty-five years of service in directing the "Scientific Survey of Porto Rico and the Virgin Islands." In May, 1933, the American Scenic and Historic Preservation Society awarded him its silver medal for his great work in conserving natural conditions in Bronx Park, as well as in the organization of the New York Botanical Garden.

Coincident with the activities which led to these honors, Dr. Britton continued throughout his life his interest in the Staten Island Museum, of which he was a founder. The call of September 9, 1881, signed by him, William T. Davis, now the sole survivor, and Arthur Hollick, led to the organization on November 12, 1881, of the Natural Science Association of Staten Island, at which he was present. The first page of the "Proceedings," issued November 10, 1883, contains his remarks on fossil leaf impressions from Tottenville. His contributions to this and subsequent issues are detailed below. From 1888 to 1891 he was president of the Association; in 1915 he and Mrs. Britton gave the Britton Cottage on New Dorp Lane to the Institute to be preserved as an example of early colonial architecture, and annually since a sum sufficient for its maintenance; in 1917 he was a liberal contributor to the cost of erecting the Museum building, and also to the subsequent enlargements of 1924 and 1929; in 1919 he and Mrs. Britton established the John J. Crooke Fund for the purchase of books on natural science. Finally in his will, almost the last conscious act of his life, he established the Nathaniel Lord Britton and Elizabeth Gertrude Britton Fund, the income of which "shall be available for scientific research and publication and the increase of the collections, but not for maintenance or construction."

The Board of Trustees of the Institute adopted the following resolutions at a special meeting on June 29, 1934:

WHEREAS, Nathaniel Lord Britton was born on Staten Island, a descendant of a family resident here before 1670, and was, with Arthur Hollick and William T. Davis, in 1881 a founder of this organization, its president from 1889 to 1892, the donor with his wife of the Britton Cottage and of the John J. Crooke Fund; and,

WHEREAS, Dr. Britton's life has been terminated in his 76th year, after benefiting the world of science by his widely used Flora of the Northern States and Canada, and other works on Geology and Botany of the United States and Porto Rico, and the City of New York by the establishment of the New York Botanical Garden, of which he was the director for 33 years; now, therefore, be it

Resolved, That the Board of Trustees of the Staten Island Institute of Arts and Sciences, mindful of the magnitude of Dr. Britton's work and of his skill in organizing scientific enterprises, and grateful for his constant support of the Institute, deeply regret his death; and,

Resolved, That a copy hereof be sent to Dr. Britton's surviving brother and sister, in evidence of the honor in which we hold the memory of their deceased brother, and of our sympathy with them.

The constancy with which Dr. Britton adhered to the ideals he had formed, so well shown in the preceding paragraph, was also manifest in many other ways. The friendship with Dr. Arthur Hollick, commenced in undergraduate days, endured to Hollick's death. The name of his wife, his constant companion until the great sorrow of his life came in her death on February 25, 1934, was associated with his own in his gifts during his lifetime, and in his testamentary disposition of his property. His brother and sister ever in his mind, and their home on Staten Island was his choice for occasional week-end visits. The history of the Britton family, dating from 1664 on Staten Island, interested him, and was shown by his care of the monuments to his ancestors. And it was this constancy, combined with other admirable characteristics, that made him capable of leaving to posterity the Illustrated Flora, the New York Botanical Garden, the Porto Rican Scientific Survey, and Britton Funds in five institutions to continue the scientific research to which his life was devoted.

Two members of our Publication Committee have been associated with Dr. and Mrs. Britton for so many years, that it may be permissible to close this account with a reference to the sense of personal sorrow which they, in common with all who knew them intimately, feel in their final departure.

Dr. and Mrs. Britton's Contributions to the Proceedings of the Natural Science Association of Staten Island:¹

November 10, 1883—Note on Indian stone hammer.

November 10, 1883—Note on fossil leaf impressions.

December 8, 1883—Note on fossil leaf impressions.

February 9, 1884—Note on "mountain leather," a variety of serpentine.

March 8, 1884—Note on drift fossils.

May 10, 1884—Note on bones and teeth of a deer, found in shell mounds.

November 8, 1884—"Notes on the Moraine at Prince's Bay."

May 9, 1885—Seasonal development of vegetation.

October 10, 1885—Note on Labradorite, found on S. I.

November 14, 1885—Note on *Spirifer arrectus*.

April 10, 1886—Paper on Glacial Drift.

September 11, 1886—Paper on Exploration of Shore of Lower Bay.

October, 1886—Notes on Geology of S. I.

February 12, 1887—Notes on annual rings of trees.

April 9, 1887—Notes on Fungi of S. I.

May 14, 1887—Notes on Mink (*Putorius vison*).

May 14, 1887—Notes on Relative times of flowering.

June 11, 1887—Notes on *Clematis ochroleuca*.

January 14, 1888—"Modified Drift."

March 14, 1889—Note on Cretaceous Strata.

April 11, 1889—Note on silicified fossils.

May 9, 1889—Note on Indian skin scraper.

October 10, 1889—Note on Cretaceous Clay.

January 9, 1890—Note on seeds of native orchids.

July, 1890—"Preliminary List of the Mosses of Staten Island," by Mrs. Britton.

August, 1890—"List of Staten Island Fungi in the Collection of the Association," by Arthur Hollick and N. L. Britton, identified by J. B. Ellis.

November 8, 1890—Note on "forms," a name for occasional color varieties.

¹ The complete bibliography of Dr. Britton's contributions to science will be published elsewhere; the list here given refers only to Staten Island.

February 14, 1891—*Barbula papillosa*, an addition to mosses (Mrs. Britton).

February 14, 1891—*Rhytisma acerinum*, an addition to fungi.

March 12, 1892—Note on Indian Stone Axe.

September 10, 1892—*Quercus brittoni*, described by Wm. T. Davis.

October 15, 1892—"The Ash Trees of Staten Island."

November 12, 1892—Note on *Aspidium cristatum*.

February 18, 1893—Note on Staten Island Trees.

March 18, 1893—Note on Staten Island Lichens.

September 9, 1893—Note on *Agrimonia mollis*.

June 9, 1894—Note on *Barbarea*.

November 10, 1894—Note on *Tussilago farfara*.

May 11, 1895—Note on *Conopholis americana*.

June 8, 1895—Note on Human Bones.

October 12, 1895—Note on *Silene nutans*.

December 14, 1895—"Additions to and new localities for the Local Flora."

April 11, 1896—Note on stone arrow point.

May 8, 1897—Note on jumping mouse.

October 9, 1896—Note on *Hieracium pratense*.

March 12, 1898—"List of Mosses collected at Arlington."

November 12, 1898—"A buried forest near Giffords."

November 12, 1898—Note on *Acaulon muticum* (Mrs. Britton).

December 14, 1901—"List of Fungi collected at Tottenville" (Mrs. Britton).

Subsequent to Dr. Britton's engagement in the arduous work of establishing the New York Botanical Garden his printed contributions became fewer. He addressed the Institute meeting of May 15, 1920, on "Wild Flowers," and Mrs. Britton spoke on the same subject at the Auxiliary meeting of April 25, 1928. Both were present on several special occasions in 1915, 1920, 1922, 1925, and 1927, especially those connected with the Britton Cottage. In January and February, 1927, the director was the guest of Dr. and Mrs. Britton in Porto Rico, and thereafter Dr. Britton frequently visited the Museum in conjunction with his visits to his brother and sister at Great Kills, thus keeping in close touch with Museum activities and aiding them by his advice.

GENEALOGICAL DATA

Dr. Britton was the son of Jasper Alexander Hamilton (commonly known as Hamilton or Alexander Hamilton) Britton, born July 19, 1811, died April 17, 1882, and Harriet Lord Turner, born August 21, 1833, married February 16, 1858, died April 7, 1911. Both parents are buried in the Moravian Cemetery. His father was twice married; the issue of his first marriage died in infancy. The brother and sisters of Dr. Britton were Richard Hamilton, Harriet Louise, who survived him, and Marian (deceased) who married George P. Jessup.

Dr. Britton's grandparents were Nathaniel Britton, born 1755, who died December 22, 1843, in his 89th year, and Margaret Bedell, born January 5, 1769, married December 30, 1804, died September 21, 1849. Both are buried in the Church of the Ascension Burying Ground, West New Brighton. His grandfather was twice married, first to Ann Elizabeth Buskirk on May 22, 1779, by whom he had several children. Of his second marriage the only issue was his son Jasper, who inherited his farms, 80 acres in Southfield, 3½ acres in Castleton.

The ancestry of Dr. Britton's grandfather is not definitely known. His first marriage with Ann Buskirk indicates a connection with New Jersey, where many early Brittons settled. A further indication is found in his choice of the name Jasper for his youngest son. That name is not found among the Staten Island Brittons, but is found in the Prior family of New Jersey, with which the New Jersey Brittons intermarried. In the will of a Nathaniel Britton in 1729, there is a bequest of £30 to "Nathaniel, son of my son Abraham, deceased, when of age." It is possible, *though not proven*, that the Nathaniel to whom this bequest was made was the great grandfather of Dr. Britton; and that the Nathaniel who made his will in 1729 was the owner in 1695 of the Britton Cottage and the grandson of the William Britton, who came to Staten Island about 1664.

On Long Island the Britton family, as associated with the Stillwells and the Lady Moody colony, has been treated in Bergen's "Early Settlers of Kings County" as English, but the name seems more likely to be of French origin.

Hand Choppers of the Staten Island Indians

WM. T. DAVIS AND GEORGE B. WILMOTT

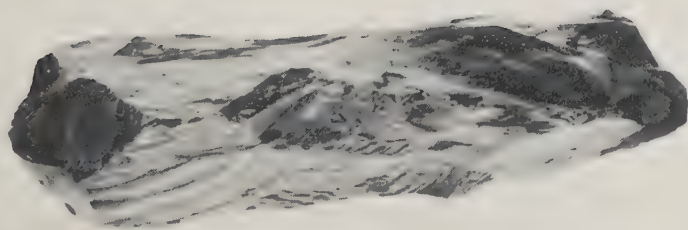
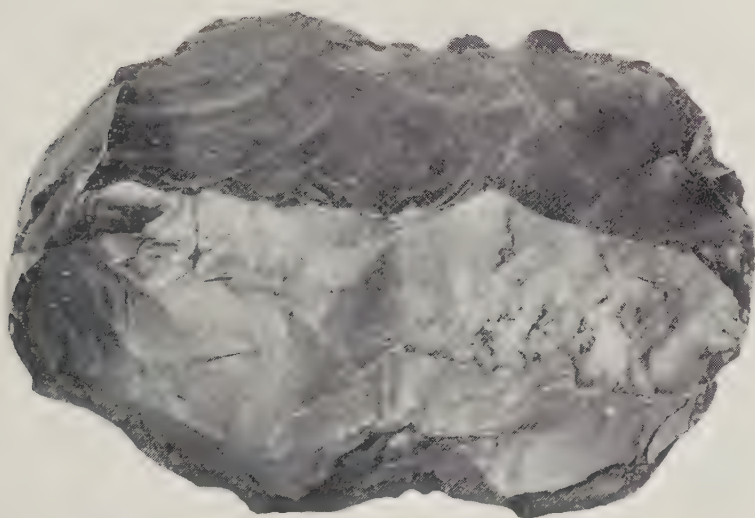
(WITH PLATE)

In the Anthropological Papers of the American Museum of Natural History, Vol. 3, 1909, Alanson Skinner characterizes Hand Choppers as: "Pebbles chipped to an edge on one side," and adds that they are occasionally pitted on both sides. Choppers, he states, "are rare throughout the Island, but a few have been found at Tottenville."

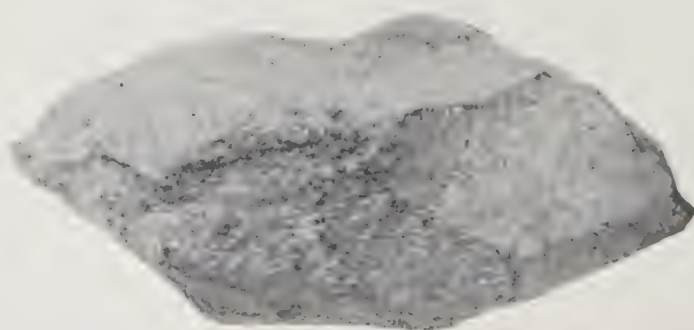
Among the Indian implements preserved in the Staten Island Museum, there are several that were probably used as Hand Choppers, but it was not until the chopper of yellow jasper was discovered June 29, 1933, on the sandy ground near the shore between Rossville and Charleston, Staten Island, that our attention was particularly drawn to these implements. Two figures of this shining and beautiful chopper are shown on the accompanying plate where the cutting edge is at the top of the upper figure. One of the flakes chipped from the side of the implement was about 90 millimeters, or $3\frac{1}{2}$ inches in length, resulting in a well placed depression for the thumb of the operator. The chopper is about 115 millimeters long; 80 mm. broad; 31 mm. thick, and weighs 380 grams or about $13\frac{1}{2}$ ounces. One end has been in the fire, and in consequence is of a dark red color. This is shown on the left end of the upper figure. Arrow points of yellow jasper were sometimes reddened by the Indians by being placed in the fire.

The second chopper was found April 17, 1934, on the well-known Indian site at Rossville, the sandy hill between Winant's Brook and Sand Lane or Winant Avenue. It is of a hard, heavy rock, dark gray in color, and much weathered, so that some of the chipped edges are no longer sharp. On the plate the upper figure shows this chopper standing on its broadest part that would be covered by the hand when it was in use, the cutting edge extending around the remainder of the implement. It is about 115 millimeters long; 100 broad; 52 thick, and weighs 800 grams or about 28 ounces.

In Dr. C. C. Abbotts "Stone Age in New Jersey," 1877, there are several figures of implements that might have been used as Hand Choppers, in the manner we believe the Rossville specimens to have been used. These implements could have been used in connection with the wooden bowls, which the Indians possessed, in the preparation of any hashed-up foods. In fact, the finely chipped chopper of yellow jasper immediately suggests such a use, and could be so used today in a most expeditious manner.



Indian Hand Chopper from Staten Island, June 29, 1933.



Indian Hand Chopper from Staten Island, April 17, 1934.

Three Crayfish in Greater New York

Wm. T. Davis

Cambarus bartonii

In Bulletin 91, New York State Museum, 1905, there is an account of the "Higher Crustacea of New York City," by Frederick Paulsen. The writer states in his account of *Cambarus bartonii* (Palmston) the Brook Crayfish, of which he gives an illustration, that it is the only species of Crayfish so far found in New York City. It is indeed the most common species and at one time ranged in a number of Western Island brooks. In the brook that issued from Logan's landing, the use of which is now covered by a northerly portion of Lower Lake Riverfront, there were a great many crayfish of this species; and a few female specimens collected at Willow Brook near Bull's Head, was brought to the Natural History Museum of Arts and Sciences, April 18, 1911. The body is four and three-eighths inches in length, and its outstretched claws added to its general size.

To the "Crustaceans of New Jersey," by Henry W. Fowler, 1912, the writer contributed a Western Island note relating to this species which is here reproduced: "I kept one in an aquarium for some time, and he made a burrow for himself in the sand, etc., about the size of a small pencil. I noticed him coming out of the burrow every now and then, always when there was a crowd of small shrimps, which he deposited at a short distance. He would hold his two claws against his body and thus manage to carry a good deal of material. As he came out of the burrow, he always stopped and looked about before going to a distance. When I ran water into the aquarium the crayfish would place himself at the mouth of the hole so as to receive the stream of fresh water. As he originally came from a brook he no doubt enjoyed this constant use of water as something like his old home. A crayfish taken from Willow Brook, Western Island, on September 19, 1906, shed its shell a few days later."

Cambarus limosus

In the Bulletin, New York Zoological Society, November, 1912, Dr. Raymond C. Osburn states in his article on "The Crayfish"

"Thus far only a single species has been reported in the region about New York City. This is the widely distributed *Cambarus bartonii* (Fabricius), which occurs in eastern Canada and eastern United States south to North Carolina and west to Indiana; and which is the only species reported from New England. Recently the New York Aquarium has obtained an abundance of specimens of another species, *C. limosus* (Rafinesque), from Central Park Lake, New York City, and Prospect Park Lake, Brooklyn. This species has not hitherto been known outside of the Delaware, Potomac and Susquehanna river drainage, except for one locality, Redbank, New Jersey, in the New York Bay drainage (see Ortmann's "Crayfishes of Pennsylvania"). Its appearance in the park lakes of New York City thus extends its range considerably. Dr. Ortmann has called my attention in a recent letter to the fact that this species has been introduced into a lake at East Hampton, Connecticut, and also that it has been naturalized in Germany."

In the Crustacea of New Jersey, *C. limosus* is recorded as "our common river species in the ponds and canals of our lowlands;" it is often found in the Delaware, and nearer Staten Island at Red Bank and Hurd Cove, Lake Hopatcong, New Jersey.

Cambarus blandingii

On July 30, 1934, the writer was in Bronx Park and met four boys, each of whom had collected one or two crayfish in the Bronx River by the simple expedient of tying a piece of meat to a string, letting it lie in the water until a hungry crayfish was attracted, and then drawing it gently within reach. Three of these living Crayfish were obtained, one of which was mounted and the other two kept alive in a pan of shallow water above the surface of which they could lift their heads. They have thus lived for about seven months and appear to be in good health.

In the Crustacea of New Jersey, four species of Crayfish are described and figured, and it appeared that those from the Bronx River were *Cambarus blandingii* (Harlan). To make sure that there was no mistake the mounted individual was taken to the American Museum of Natural History, where Mr. Willard G. Van Name compared it with specimens of *blandingii* from Yonkers, N. Y., and from several other localities at a greater distance.

From the foregoing it appears that we now have actual records of three species of Crayfish living within the greater City of New York, and it now remains to get further data on their distribution.

In "Sea-Shore Life," 1905, Dr. Alfred G. Mayer stated that: "In the neighborhood of New York we find three common species" of Crayfish, but as he gave no localities his observation is not mentioned by either Paulmeyer or Osburn in their accounts of New York City Crustacea.

The fourth species mentioned as occurring in New Jersey, namely, *Cambarus diogenes* Girard, has been found at Schooley's Mountain, at Trenton, and the writer has seen the chimneys or mounds it constructs in Cape May County.

Natural History Records from the Meetings of the Staten Island Nature Club

WILLIAM T. DAVIS

The meeting of June 24, 1933, was held in the Public Museum.

Mr. Carol Stryker reported that late in June he had heard a yellow breasted chat singing all night near Richmond, and another was heard at Huguenot. Two chickadees in the Richmond woods on the same date would indicate nesting. He also reported a bee-tree near Richmond, the finding of a British coin and a number of Indian implements. He gave the following bird records for Oakwood Beach received from Mr. Wm. F. Drescher: August 16, 1930, Arctic Tern, also seen by Dr. Wm. H. Wiegmann, and September 12, 1931, Wilson's Plover.

Mr. Carlton Beil exhibited two kinds of Myxomycetes found by him on Staten Island, one on a pile of sawdust. He referred to the recent lecture before the Institute on these organisms by Mr. Robert Hagelstein.

Mr. Wm. T. Davis exhibited herbarium sheets of the following species of plants. American Linden (*Tilia americana* L.) from a fine flowering tree in the woods near Lambert's Lane and South Avenue, Watchogue. White Mulberry (*Morus alba* L.), remarkable for its size, it being 6 feet, 6 inches in circumference. It is located on the one-time Capt. J. Keteltas place, now Demaso Inn grounds, corner of Old Town Road and Sand Lane near South Beach. There is a large American Elm, 15 feet in circumference, in the same grounds. Black Swallow-wort (*Cynanchum nigrum* L.) from the one-time Ross-Lyon place at Rossville. This introduced species is one of the most intertwined of plants, and has been known at the above locality for 31 years, namely, since June 7, 1902, when it was first discovered. It is recorded in the PROCEEDINGS of the Natural Science Association of Staten Island, May 9, 1903. *Hudsonia tomentosa* Nutt., from several clumps, fast dying out, growing close to the shore near the foundation walls of the old Winant house, Sandy Ground, Rossville. The clump reported as occurring near Woodrow Road and Winant Avenue, died

¹ These records have been compiled largely from the minutes of the club, Hans L. Stecher, secretary.

out during the winter of 1932-1933. The cause of the gradual disappearance of this once common plant of the sandy areas of the Island cannot be easily explained.

Mr. Davis showed an Indian net-sinker which he had found not far distant from the *Hudsonia* locality. He also showed his collection of Three-winged Dragonflies, some of which had one of the wings broken off close to the body, while others had short stubs remaining. These insects had been observed flying about and in every case had learned to fly with precision; one was seen to catch an insect. Four specimens of *Libellula vibrans*, taken at Watchogue, June 14, 1933, were exhibited. They with *Pachydiplax longipennis* arrived on Staten Island in considerable numbers, as reported at the meeting of the Nature Club held May 23, 1933. A *Pachydiplax longipennis* which had been taken from a rather large jumping spider was exhibited. *Libellula vibrans* had not been noticed on the Island since 1929 when it was common.

Several specimens of the Mussel Crab lately taken from edible mussels and received from Mrs. Frank A. Strauss, were shown, together with the Oyster Crab for comparison.

A fungus found growing on a decayed plank in the dock at the foot of South Street, May 20, 1933, by Mr. John Rader, was identified as *Lentinus lepidus*, an edible species.

Mr. Howard H. Cleaves reported a breeding pair of Cooper's hawks at Pleasant Plains, Staten Island. The nest was described as being fifty feet or more up a smooth-barked tulip tree beside the west branch of Sandy Brook in a woodland lying between Bloomingdale Road and McGuire Avenue, and within ten minutes' walk of Mr. Cleaves' home in Maretzek Court. The nest was discovered about mid-April and has been under intermittent observation since. There are three young in the nest, now large enough to walk about and show themselves. Black feathers are in evidence on the wings and making their appearance on the backs of the young birds which otherwise are still covered with white natal down. This being apparently the first breeding record of the species for the Island, it is well worth recording. Several interested persons have been to see the nest, these including Mr. William T. Davis and Dr. James P. Chapin. Red-eyed vireos, crested flycatchers, towhees, catbirds and several other species of song birds were heard and seen in the same woodland where the hawks are living.

Another record for Staten Island reported by Mr. Cleaves was that of two black skimmers (*Rynchops nigra*) observed by him, Mrs. Cleaves and Mr. J. P. McGee at Oakwood Beach, June 22, 1933, at the hour (Daylight Saving Time) of 7:15 P. M. The birds swung past the observers at a distance of only fifteen or twenty feet in the graceful elastic flight characteristic of the species. The birds were silent, and were flying from the direction of Midland Beach. They disappeared toward Crooke's Point. A high tide was making at the time, its waters an hour later covering the meadow path three or four inches deep. As the skimmers flew past they "skimmed" for a short distance by lowering the under mandible into the water—an act familiar to anybody who has visited a colony of these strange birds.

Mr. Cleaves mentioned having recently seen a weasel crossing Woodrow Road near St. Michael's Home, Green Ridge, Staten Island, carrying some object in its mouth. The car driven by Mr. Cleaves passed over the weasel without result other than to frighten the creature into dropping its prey, an immature meadow mouse (*Microtus*) which was brought to the Museum to be preserved.

Other observations contributed by Mr. Cleaves were on a breeding pair of sandhill cranes and their newly hatched chick in a wet meadow about twenty-five miles northeast of Battle Creek, Michigan, on May 22, 1933; a visit to the wild flower garden developed at Willoughby, Ohio, by Mr. and Mrs. C. M. Shipman, formerly of Rossville, Staten Island; and fish hawks and their nests in Monmouth County, New Jersey, seen during a trip made June 23, 1933. Several of the nests were described as being high off the ground on cross-bars of poles at the experimental station of the New York Telephone and Telegraph Company, Deal, N. J. The watchman there told Mr. Cleaves that lightning had struck recently, splitting a tall pole and killing one of the fish hawks whose nest was resting on that pole. The nest was observed to be still in place and a live adult bird on it, leading one to wonder if a new pair had taken possession, or if this bird was the survivor, or whether the present bird was a new mate secured by the surviving bird of the original pair, assuming always that the watchman's story was true.

Mr. Hans L. Stecher showed some living jelly-fish developed in salt water taken from Great Kill, May 21, 1933, by Mrs. P. A. Bonney. Mr. Stecher also reported that on June 3, 1933, he found a considerable number of insects washed ashore on the beach at Tottenville to the south of the ship-yard. In all there were 229 specimens of about 73 species. Buprestid beetles were well represented. The beetles have been determined by Mr. Charles W. Leng, and are arranged in one box. A similar occurrence to the one mentioned above took place June 5, 1914, when a large number of insects were washed ashore in the small bay at Ward's Point to the south of Tottenville, as narrated by Mr. Wm. T. Davis.

Mrs. Carol Stryker talked on "Wild Flower Gardening," illustrated by many beautifully colored lantern slides.

The meeting of September 23, 1933, was held in the Public Museum.

Mr. Charles W. Leng showed a branch and leaves of the Leatherwood or Moosewood (*Dirca palustris* L.), a shrub 2-6 feet high with numerous branches having scars which make them appear as if jointed at the beginning of each annual growth. Herbarium specimens from Litchfield, Connecticut, and from near Washington, D. C., are in the collection.

Mr. Elliott R. Burgher exhibited a number of Indian implements which he had collected at various times near Travis, Staten Island. He had made excavations on Indian sites and found some of the implements from one to nearly two feet under ground. He exhibited two small paint pots, one of natural iron and clay known as a geode, and an unusual one of clay. Also a flint drill and an arrow-head of green flint; a fine one of white quartz, and others of odd shapes.

Mrs. Trench reported the continued presence of the two barn owls near her home and of their unusual calls. The chipmunk colony is thriving in spite of cats, but no pheasants had been seen this summer. She stated that she had observed chickens eating only the fat parts of Japanese beetles, discarding the claws, wing-covers, etc.

Mr. Charles C. Stoddard presented to the Museum a piece of Indian pipe-stone from Minnesota. The material can readily be worked when soft and just mined, but hardens with age, once out

of the ground. The Indians are rationed to one piece a year, as the supply is shrinking. The exhibited piece represented such a ration.

Mr. Carol Stryker said that he was disappointed in not finding the nest of the killdeer plover in the flats at Oakwood in the early part of the summer. He was, however, successful in the latter part of the season in finding the nest with four eggs. On September 10 the birds in Reed's Valley, with the exception of one song sparrow, were unusually quiet, due to two sharp-shinned hawks. By the time the hill at Ocean Terrace was reached, a great many hawks were noticed, including sharp-shinned, pigeon and Cooper's hawks. About fifty birds were counted.

On the same day Dr. James P. Chapin had seen a sharp-shinned hawk at Mt. Loretto, Princes Bay. On September 23, 1933, a dead Cooper's hawk was brought to the Museum by Mr. Robert Wigand.

Dr. James P. Chapin reported seeing the Little Gull of Eurasia, and stated that in early May, July, and the first part of August two were seen by Dr. Wm. H. Wiegmann at Great Kills, Staten Island. On the occasion of the walk of the Bird Club, August 12, the gulls were again seen. One was considered by Dr. Chapin to be a second year gull, and the other very likely the same. It is quite likely that these birds were hatched on the American side of the Atlantic.

Mr. Howard H. Cleaves exhibited a photograph of the large nail in an old sycamore tree on the Cottrell farm near Matawan, New Jersey, about which the tree has grown a considerable amount of tissue. This growth has been examined by several naturalists, and the photograph was taken by Mr. W. S. Hinegardner.

Mr. Cleaves also reported that several large black crickets in his cellar had laid their eggs in a felt ironing pad of about one-fourth inch thickness. The pad lay on the concrete floor.

Mr. Wm. T. Davis read some newspaper items on the Dutch Elm Disease recently found in "Richmond and Castleton, S. I.," also New Jersey, Long Island and parts of Westchester County. "The Dutch Elm Disease," Circular No. 170, U. S. Department of Agriculture, May, 1931, states that the disease first appeared in the Netherlands in 1910, quickly spread to Belgium, Germany and France; appeared in Great Britain in 1927, and in the United

States in 1930. It has also been found in Norway and in Italy. The native home of this fungus disease, *Graphium ulmi*, is at present unknown. The bark beetle, *Scolytus multistriatus*, was found in great numbers in one of the dead elms at Maplewood, New Jersey, and is supposed to aid in spreading the disease.

Mr. Davis mentioned some of the extremes of weather of the present year. In the latter part of January the south shore of the Island was flooded by very high tides which caused much damage. After the mild days of early February, when the thermometer reached 63 degrees in New York, the temperature suddenly dropped to below freezing. On the 8th of February it was warm along the docks at Tompkinsville, and a mist was rising from the ground over moist areas. While not as warm as 1931-1932, the winter of 1932-1933 was the second warmest of record.

On May 20, 1933, there occurred what the newspapers referred to as a "miniature cyclone," that wrought havoc in parts of our Island. The path of this storm was clearly cut in places from Rossville to Princes Bay, though other parts of the Island also suffered. Many trees were uprooted and roofs blown from houses. On June 7 there was another storm that brought down more trees, one of them on the grounds of the Billopp house at Tottenville.

On June 16, 1933, the *N. Y. Times* recorded the "second successive day of unseasonably cool weather, the mercury dropped yesterday to 47 degrees, the lowest temperature ever recorded on June 15 by the local Weather Bureau." On July 4, 1933, the same paper stated: "New Yorkers who were sweltering last Saturday with the temperature at 90 degrees, appeared yesterday in topcoats as the erratic mercury went to the other extreme. The day's minimum, 55, at 10 A. M. set a new low mark for July 3 and was only one degree above the coolest July day in the Weather Bureau's history."

On July 31 the mercury reached 100, which was the hottest day of the summer to that date, and also the hottest day ever recorded in the month of July in New York City. August 7, 1918, with a temperature of 102 degrees, is the present high record for New York City.

The storm of August 23, 1933, was of wide range along the coast and did considerable harm. Many trees on the Island were felled by the wind and houses and boats were damaged. The

large elm 15 feet in circumference on the one-time Capt. Keteltas place on the Old Town Road was blown down, and at 146 Stuyvesant Place, St. George, the large Stag-horn Sumach, 2 feet 2 inches in circumference, was destroyed. Photographs of this record sumach, as well as of the large elm were shown. After the storm of August 23, the vast number of Edible Mussels cast ashore on the south side of Staten Island were in places being sorted over and the living ones selected for food. A number of these shells were shown and among them the variety *pellucidus*. At Oakwood Beach a stake 13 inches in length was washed ashore. Outwardly it appeared perfect, except at the end where it had been broken off. Here *Teredo* borings made some time ago were apparent. When the stake was cut open, it was found that it had contained three colonies of *Teredo*, but only the one occupying 4 inches of the central part of the stake contained living individuals. While *Teredo* occurs sparingly along the south shore of the Island, the water of the inner bay is no longer sufficiently pure to maintain these destructive animals.

Many crabs, shells and other objects of interest were cast ashore in addition to those mentioned, and August, 1933, was recorded by the *New York Sun* of September 6, as producing a record number of tropical gales, and the *New York Times* of September 28 printed "Hurricanes This Year Likely to Set a Record."

On the afternoon of August 12, when the beach at Oakwood was visited by the Bird Club, two boys crabbing along the edge of the peat beds discovered a Semi-palmated Sandpiper unable to fly away because it was held in the grasp of an Edible Mussel that had closed upon one of its toes. One of the boys was holding the bird with the mussel attached in his hand and requested that the mussel be pried open so that the bird could be released. When this was done, it was discovered that part of another one of its toes was missing, so no doubt it was at least the second time that it had been captured by a lowly Mollusk. The mussel shell, one and a half inches in length, and securely anchored to the shell of a soft clam, was shown.

Mr. Davis exhibited a living female Mud-box Terrapin, *Kinosternon bauri*, collected on September 7, 1913, while he was at South Jacksonville, Florida. The turtle was fully grown when found, and for the past twenty years has lived at 146 Stuyvesant

face, Staten Island, being fed about once a week on bits of raw meat. It appears to be in good health, and is probably about 25 years of age.

Mr. Davis also showed the Marbled Salamander mentioned in these PROCEEDINGS for April 25, 1931. It was collected at Breakers, New Jersey, in the early part of 1925 by Alanson Skinner, and was about two and one-quarter inches in length when found. It was 9 or 10 years old when it died, September 9, 1933.

The meeting of October 28, 1933, was held in the Public Museum.

Mr. Charles W. Leng showed case-bearing larvae presented to the Museum by Wm. F. Behler, 84 Clinton Place, Port Richmond. The identification had been made by Carl Heinrich, of the U. S. Department of Agriculture, "as belonging to the Lepidopterous genus *Coleophora* presumably one of the *Juncus* feeders, either *catipennella* Clem., or *caespitiella* Zeller. In the late fall the larvae wander from their host plants and attach their cases to fences, bushes or any convenient object. In the spring they again return to their food plants and finish feeding."

Returned from his recent trip with Captain Bob Bartlett from the north, Mr. Junius Bird brought four Carabid beetles (*Carabidus brunnipennis* Dejean) for the Museum collection, taken on South Hampton Island, Canada.

Mr. Carol Stryker reported concerning the destruction of the fringed Gentians in La Tourette Park by the Park Department, and regretted that the plants had not had time to completely ripen their seeds. A golf course is to be laid out and the gentians will probably be destroyed.

Mr. Elwood Logan showed a one-pound disk of wax that he and some other Woodcraft members had collected by boiling about 15 pounds of Bayberries. The color of the wax is olive-green.

Mr. Carlton Beil showed a series of bird study skins prepared by him; also spore prints of the fungus *Pholiota adiposa* made from a specimen growing in Barrett Park.

Mr. Carol Stryker showed a photograph taken in July in the open ground between New Dorp and Oakwood of a Killdeer's nest containing four eggs. He also reported that through the efforts of the Conservation officers two hundred Quail had been released on the Island.

Mr. Wm. T. Davis called attention to the article in *Bird Lore*, September-October, 1933, pp. 303-304, entitled "Bird Sanctuary Created on Staten Island." He stated that Mr. George Wort had brought the first lot of cedar posts ordered by the National Association of Audubon Societies, to the Bird Sanctuary at New Springville, and that it was proposed to place the inner enclosure at the westerly end of the Sanctuary, taking in that part of Vreeland's Brook near the salt meadow.

Mr. Davis showed three pieces of thick glass, such as is used in ship skylights, etc. One was found on a site at "Fertile Plain" near Benedict's Creek, Green Ridge, Staten Island, March 24, 1929. The glass is just an inch thick and is two inches long. It shows work where chips have been removed. Also another and smaller piece of thick glass about $1\frac{1}{2}$ inches long from near the above mentioned locality. The third and largest piece of worked glass, 1 inch thick and $2\frac{1}{2}$ inches in length, was found on an Indian site near the old Winant house and Staten Island Sound, July 28, 1933. It was suggested that even with iron implements available the presence of the evidently chipped glass on the Indian sites would seem to indicate that fragments of sharp glass had been in use. Some chipped flints and other like stones were also shown. They were found July 1, 1933, on the sandy ground along Staten Island Sound between Rossville and Charleston, chiefly on one site. It was evident that some of these stones were chipped very much longer ago than the others, and are much more weathered. Allowance of course must be made for the character of the exposure, but it is likely that some of the work greatly antedates that exhibited by many of the other flints and would also indicate that the Indians had long occupied the site. Indeed the multitude of implements found on some of the sites would in itself indicate a considerable antiquity.

Mr. Davis showed the following mounted plants: Sand or Knee-high Blackberry, *Rubus cuneifolia* Pursh., from Legler, New Jersey, on the road between Cassville and Lakehurst. Plants of this wild blackberry had been dug up by an old German and planted in his garden, where he had a considerable number under cultivation. Cranberry, *Oxycoccus macrocarpus* Aiton, from a bog of wild cranberries near Natick Street, Richmond, Staten Island. A specimen collected at this same locality, May 30, 1888, was also shown.

Since that time the area of cranberry plants has greatly extended itself, and on September 9, 1933, it was estimated that about a bushel of nearly ripe berries were in sight. The Cotton-grass, *Eriophorum virginicum*, is growing, as it often does, with the cranberries. Additional herbarium sheets of cranberry plants were shown from a new locality on the north side of the brook below the church at Charleston, Staten Island, July 28, 1933. Soapwort Gentian, *Gentiana saponaria* L., from a new locality near the north east corner of the Willow Brook Road and the Watchogue Road, where a number of plants were found on October 10, 1933. This is the most widely distributed species of Gentian to be found on Staten Island at the present time. The well-known patch of Fringed Gentian in La Tourette Park near Ketchum's Mill-pond Brook and the Richmond Hill Road, has been known at least since 1897. Lately a mowing machine belonging to the Park Department cut a swath of about 10 feet through the length of the patch doing great damage to the gentians and preventing many of them from perfecting their seeds. In the 1879 list of the plants of the Island by Hollick and Britton, the Fringed Gentian was recorded as "frequent," but of late years it has been found only at the La Tourette Park locality.

Mr. Davis stated that on October 26, 1933, he had found a small chestnut on the northerly side of the Richmond Hill Road which had borne many burrs in 1933. He recalled that on Staten Island, shortly after the blight had killed the large chestnut trees, the sprouts coming from their roots were also rapidly killed by the same species of fungus, and the woods presented a rather desolate appearance in late summer as a consequence of their withered foliage. He stated that this is the present condition of the chestnuts along the upper Delaware River at Parker's Glen, Pike County, Pa., as observed by him in late September, whereas on Staten Island the young chestnuts, which are numerous in places, now show more vitality and the woodland has a more cheerful aspect. The chestnut blight was first noticed about New York in 1905, and gradually spread to more distant localities. See *Pro. S. I. Assn. of Arts and Sciences*, vol. 2, pp. 125-129.

The following note was then read: Through the courtesy of Mr. Arthur Helme, of the Brooklyn Institute of Arts and Sciences, we have been enabled to copy two items of interest to the ornitholo-

gists of Staten Island. One refers to the nest of a Red-tailed Hawk found at Huguenot, S. I., May 30, 1874, by S. D. Osbourn. The bird was identified on the wing and the date is rather late for the nest of that species, unless the first nest had been destroyed. Two eggs (309 A) in the collection of the Institute are recorded from this nest, and their measurements are given as 2.24×1.70 , and 2.13×1.65 . They are rather small for those of a Red-tailed Hawk. The other record is that of a Broad-winged Hawk's nest found at Huguenot, S. I., April 28, 1880, by Wm. D. Chapell. Mr. Helme has found numerous nests of this species on Long Island. David B. Stearns and Thomas B. Stearns also collected birds eggs on Staten Island about 1875 to 1880.

The meeting of November 25, 1933, was held in the Public Museum.

Mr. Charles W. Leng reported upon the progress of the Bird Sanctuary in New Springville Park, and announced that the next walk of the Bird Club would be to the Sanctuary.

Mr. Carlton Beil showed several bird study skins that he had prepared. Dead birds are often brought to the Museum and it is desirable that they be preserved when possible.

Mr. Beil exhibited some of the preserved pond-life and marine specimens lately presented to the Institute by Dr. Philip Dowell. Among them were some collected many years ago by Dr. James P. Chapin and Mr. Wm. T. Davis and presented to Dr. Dowell. One of particular interest was a vial containing Fairy Shrimp from a pond near the Black Horse Tavern, Staten Island, dated 1903, collected by Wm. T. Davis. Mr. Davis stated that the pond had been filled up.

Dr. James P. Chapin exhibited a dried foot of enormous size resembling in that respect an elephant's foot. His further explanation, however, revealed the fact that it belonged to a now nearly extinct species of Galapagos Tortoise. He related that the Norwegians had founded a fish cannery on one of the islands, and soon discovered that tortoise meat could be preserved as well as fish. Unfortunately these turtles are now rare, but efforts are being made to breed them in Florida and elsewhere under suitable climatic conditions.

Mr. L. A. Ellison reported finding an *Amanita phalloides* at Willowbrook, November 11, 1933, and showed one of the Jelly-

fish taken at the Electric Power Station at Livingston, November 10, 1933.

Mr. Charles L. Ragot exhibited a Butterfly-fish about one and one-half inches in length, preserved in formalin, and taken at Speonk, Long Island, October 23, 1933.

Mr. George B. Wilmott showed a photograph of the mushroom, *Clitocybe illudens*, or Deceiving Clitocybe, also known by the name Jack-o'Lantern. The photograph was taken in the summer of 1933 at Mt. Washington, Mass. This poisonous species was growing on a dead chestnut tree, and is remarkable for its phosphorescence. Large fresh specimens when placed in the dark emit a glowing light.

Mr. I. C. G. Cooper remarked on certain loud noises heard in his home, which upon investigation were found to be caused by the bursting of some Wisteria beans collected a short time before.

Mr. Carol Stryker reported a Purple Finch and a Hairy Woodpecker at Barrett Park on November 17, 1933, and that on November 21 the Blue Jays in the park discovered a Long-eared Owl.

Mr. Hans L. Stecher stated that on November 19, 1933, he had visited South Beach and found several species of Jelly-fish cast ashore in countless numbers. Three specimens of very large size, 8 to 9 inches in diameter, almost perfect with their long tentacles still intact were just coming ashore, the animals overcome by the cold. Other medium sized specimens in a frozen condition were picked up, and when bent would split in half. Some of the small Comb Jelly-fish still living, and other material were taken in a jar for a marine aquarium in the Museum.

Mr. Wm. T. Davis called attention to the recently published paper on the lichen genus *Cladonia*, the "*Cladoniae* in the range of the Torrey Botanical Club," by Raymond H. Torrey. There is a key to the group and the 44 species mentioned, nearly all of which are also figured on the four plates.

He further stated that though he had personally found several Black Widow spiders on the Island that the largest one he had ever seen from this locality was a female recently collected by Mr. Robert McCulloch from the foundation of the one-time Bonnell place on Todt Hill. This female and her much smaller male companion, were brought to the Museum by Mr. McCulloch. This spider is poisonous, and according to the *N. Y. Sun* of November

16, 1933. Dr. Alan W. Blair, of the University of Alabama, permitted one of these spiders to bite his little finger and as a result spent two days in bed suffering intensely.

On November 10, 1933, Mr. John Rader, Mr. Charles W. Leng, Mr. Joseph F. Burke and Mr. Davis visited the excavation being made for the foundations of the additional buildings of the Marine Hospital, corner of Bay Street and Vanderbilt Avenue. Six photographs of the stratified sand underlying the final deposits made by the retreating glacier were shown. These banded deposits were of different colors and the material of varying degrees of fineness. Near Bay Street, at the bottom of the slope near to what was once called "Hudson's Spring," a fine blue clay was uncovered.

Cross-cuts of the many logs of red cedar brought from near Amenia, Dutchess County, New York, close to the Connecticut State line, by Mr. George W. Wort, for fence posts for the Bird Sanctuary at New Springville, show interesting conditions among the trees. Mr. Wort reports that the Bitter-sweet vines, *Celastrus scandens*, grow so luxuriantly among the cedars, entwining themselves about their trunks and even their topmost branches, that the life of the cedars is often endangered. A cross-section of an unhealthy tree, showing but a narrow and irregular growth of sapwood, was exhibited. The tree at first grew slowly, but from about its eighth to its twenty-fourth year grew more vigorously; then fell into a decline, so that the sapwood, when the tree was cut, formed but a narrow and very irregular encircling area.

On November 5, 1933, ice formed to about one eighth of an inch in thickness on a pail of water at 146 Stuyvesant Place, and several of the following nights were also cold. November 22nd was, however, a warm day and two *Colias erytheme* butterflies were seen in a walk from St. George to West New Brighton.

Mr. Davis stated that on September 1, 1933, he had visited Bronx Park, walking for the most part on the easterly side of the Bronx River. There are so many gray squirrels in the Park that their food supply is short in spite of the many donations from visitors of peanuts, bits of chocolate, etc. The squirrels are constantly investigating and rummaging about. Among their other activities is the cutting from the trees, long before they are mature, the hickory nuts, beech nuts, tulip seeds, iron-wood seeds and many

acorns, including even the small ones borne by the pin oaks. The acorns are secured chiefly for the weevil larvae that they may contain. If there is no larva within an acorn belonging to the red-oak group, it is abandoned. The green hickory nuts are eaten, the outer, bitter shell, being no deterrent. Hickory nuts of four of the species found around New York City, all opened by squirrels, were observed, namely, shag-bark, pig-nut, mocker-nut and bitter-nut. The small fruited hickory was not observed. In June the squirrels sometimes cut the flowers from the tulip trees and eat part of the central portion near the base. Mr. Davis referred to "Local Notes on the Gray Squirrel," published in these PROCEEDINGS, Vol. 2, pp. 126-134, October, 1923.

The meeting of December 23, 1933, was held in the Public Museum.

Mr. Charles W. Leng showed some branches of the poplar, *Populus angulata* Aitén and Michaux, remarkable on account of their conspicuous five ridges or wings. This curious tree may be but a variety of the Cottonwood or Carolina poplar. The specimens came from the vicinity of Albany and there is a description of the tree in the "Annotated List of the Ferns and Flowering Plants of New York State," N. Y. State Museum Bulletin 254, page 261.

Mr. John Pader reported that on December 23, temperature about 41° Fah., he had heard a song sparrow singing on the north shore of the Island, and he regretted that still more fine trees had been cut down by the Park Department in Clove Lake Park.

Mr. Wm. T. Davis stated that the tropical cockroach from a fruit store received last April when it was quite small, matured during the latter part of the summer and died on December 9, 1933. It was ill for several days and finally could move but feebly the tarsal joints on one of its fore legs. The glossy brown specimen was shown, the tegmina expanding two and seven-eighths inches. The species is known as *Nyctoloma noctivaga* Rehn, and is figured and described as being introduced with bananas and other tropical fruits both by Dr. Blatchley in his *Orthoptera of North-eastern America*, p. 91, and by Prof. Morse in *Orthoptera of New England*, p. 319.

Mr. Davis further stated that he had received a number of egg-masses of the large Mantis, *Tenodera angustipennis*, from Mr.

Frank Morton Jones, of Wilmington, Delaware, and from Mr. Carl Ilg, of New Brunswick, New Jersey. They have been placed out of doors on the Island at 146 Stuyvesant Place, and in the Bird Sanctuary at New Springville. In his note of December 15, Mr. Ilg records that the egg-masses from New Jersey were collected at Cedarville, Cumberland County, on fences partly overgrown with honeysuckle, and others were collected at Glassboro, Gloucester County, the same locality mentioned at the Nature Club meeting of March 25, 1933. This large Asiatic Mantis may be introduced in the Island as was the closely related species *Tenodera sinensis*, also from Asia.

Mr. Davis read a letter from Mr. Frank E. Watson, of the American Museum of Natural History, and showed an illustrated article from the *Herald-Tribune*, December 1, 1933, descriptive of an owl that had fallen on the deck of the United States liner *Manhattan* during a storm, when the vessel was off the Grand Banks. The bird had been presented by the captain to Mrs. Florence Garson, 47 Scribner Avenue, Staten Island. Mr. Davis had examined the living bird, which appears to be doing well under the care of Mrs. Garson, and as surmised by Mr. Watson and Mr. Nichols, of the American Museum, it is a Richardson's Owl.

Attention was called to several newspaper items about the recent migration of Gray Squirrels, many having crossed the Hudson on the Bear Mountain bridge, and the 8-foot shark captured at Sheepshead Bay, Long Island, December 16, a late appearance.

Mr. Howard H. Cleaves told of driving from Toledo to Sandusky, Ohio, by a highway which runs close to the shore of Lake Erie, passing through the Sandusky marshes, a great resort for waterfowl. It was at sunset on a November day. The ducks, in impressive numbers, were coming to the marshes from the direction of the lake and settling in open water among the cattails, doubtless for night feeding. The air was alive with birds that made a pretty sight as they wheeled and manoeuvred against a golden sky. The whistling of hundreds of wings and the multiple quacking of the hurrying birds could be distinctly heard.

Mr. Cleaves mentioned also the fact that the fox squirrel had been observed by him on a number of occasions in the middle western states, including Ohio, Indiana, Illinois, Wisconsin and Iowa. It was stated as his opinion that this animal in the territory

mentioned is more numerous than the gray squirrel. The point was stressed that the fox squirrel is seen close to human dwellings, one of the animals having run across a barnyard close to pigs and chickens while Mr. Cleaves talked with a farmer in Iowa.

Mr. Carlton Beil exhibited a gray squirrel prepared by him, and stated that the length of the animal had been slightly increased, this being his first attempt to preserve the skin of a large rodent. He called attention to the various colors that can be seen on the fur of a gray squirrel. On December 23, 1933, Mr. Beil had observed about one hundred Bonaparte's gulls in a close flock at Silver Lake reservoir.

Mr. Carol Stryker confirmed the above report by saying that he had seen the flock the preceding evening over New Brighton. Mr. Stryker also stated that the Fringed Gentians in La Tourette Park are to disappear to make place for a golf course.

Mr. Adolph Callisen, our "Uncle Toby," then read a paper entitled: "Thoreau on Staten Island." The illustrated "Uncle Toby" book for 1933, entitled "The Glorious Days of Yore," was also presented, together with the entire series dating back to 1923. These books are quaint stories about our Island, and are being carefully preserved.

Mr. Charles Coleman Stoddard read his poem: "An Old Fashioned Christmas," which was received with much appreciation.

The meeting of January 27, 1934, was held in the Public Museum.

Mr. John Rader related various experiences during his recent walks, and the presence of a Great Blue Heron on the meadow at Green Ridge.

Mr. Charles C. Stoddard showed an Indian Scraper found in his garden at Richmond, Staten Island, and stated that earthworms are often exceedingly numerous there even in cold weather.

Miss Emilie O. Long presented the following objects to the Museum, all having been collected by her nephew Harold Nichol: Gun and pistol flints found at Richmond, Staten Island; Indian arrow head from Bloomingdale Road; scraper found at foot of Bard Avenue; two small pieces of Indian pottery found in a grave at Mariners' Harbor. Miss Long also presented a shad net needle made of hickory wood. This was found behind the fire place of a house between Bard and Davis Avenues when it was torn down in 1925.

Mr. Carlton Beil stated that one of the spiders having 6 eyes instead of 8, and known as *Dysdera interrita*, had been found recently in the Museum building. A dead Sparrow Hawk received from Mrs. Ballantine on January 18, 1934, had been prepared as a study skin. Wax models prepared by Mr. Beil of the Orange-striped Sea-anemone, *Sagartia luciae*, mounted on a piece of rock, and showing various stages, were also exhibited.

Miss Marion Olwig reported that while visiting in Connecticut at the home of Mr. Logan, she had induced some birds to feed from her hand—a novel and pleasing experience.

Capt. Thomas I. Miller reported that a bird house in his garden at Annadale, occupied for a time by a screech owl, had been examined by himself and Mr. Stryker. Feathers of blue birds, jays and sparrows were found.

Mr. Carol Stryker reported on the Christmas Bird Census of December 28, 1933. Forty-three species with about 3,411 individuals were seen. Fog was at first a great handicap. Details regarding the census will appear in *Bird Lore*. Reference was made to an editorial in the *Advance* on the census.

Mr. Stryker further reported that Park Department men had found a number of hibernating milk snakes, dug up at the cave in Clove Valley. The snakes were close together in a ball and somewhat dormant when found.

Mr. Wm. T. Davis mentioned as a matter of record that it was 3° below zero on December 29, and 6 below on December 30, 1933, the lowest temperatures since February 30, 1917, when it was 7 below. On December 30, 1917, it was 13 below zero. The changing climate for North-eastern North America according to Dr. Paul B. Sears, writing in the *Literary Digest* for January 6, 1934, is revealed by studies of fossil pollen collected in peat beds, and some facts might be gleaned from an examination of the peat deposits at Concord, Staten Island. The white spruce cones found in a glacial pond in the Moravian Cemetery, Staten Island, and the few living red spruces growing on Gid's Island near Orient, Long Island, N. Y., are reminders of a changing climate.

In a letter from Mr. Roy Latham, dated January 20, 1934, the fact that the large Mantis, *Tenodera sinensis*, had at last reached the eastern part of Long Island, was recorded. Mr. Latham found it last summer in Southold and Greenport. Among a number of

insects received from Mr. Latham, there was a large female walking-stick insect, *Diapheromera femorata* Say, from Orient, September 2, 1933. This species has not been recorded from Staten Island, but several have been found on Long Island.

Mr. Davis showed specimens of the golden-rod *Solidago patula* Muhlenberg, collected in Reed's Valley, Dongan Hills, in August, 1895, and October, 1898, and demonstrated how easy it was to rub the finger toward the end of a leaf on its upper surface while the finger was firmly held when the reverse motion was attempted. This interesting species, once found in several places on the Island, has not been collected recently.

Mr. Davis also showed a small cicada, *Platypedia latipennis* Davis, sent to him by Prof. George F. Knowlton, of the Utah Agricultural College, Logan, Utah. It was collected on a Russian thistle at Vernal, Utah, June 12, 1931, by Prof. Knowlton, and is the only one seen since the type, collected at Douglas Spring, Routt County, Colorado, June 20, by J. W. Frey, was described in the *Journal* of the N. Y. Entomological Society, March, 1921. After thirteen years it is gratifying to have the species confirmed by the discovery of a second specimen. The type of the species is in the collection of the American Museum of Natural History.

A meeting of the Nature Club was held on Saturday, February 24, 1934, at 8:30 P. M., at Barrett Park. The members were the guests of Mr. and Mrs. Carol Stryker.

Mr. John Rader reported finding a dead Great Blue Heron on the Great Kill meadows near the home of Mrs. Trench.

Mr. Carol Stryker reported on a recent bird trip to Long Beach, Long Island, where he had seen a great many ducks, gulls, etc., that permitted a near approach. In all fourteen species were observed.

Various observations regarding the recent icy condition of the Bay, and the difficulties encountered by ferries and ships were reported by Mr. Frederick Olwig, Mr. Percy L. Sperr and others. A clipping from the *Herald-Tribune* of February 23, supplied by Miss A. L. Pollard, read in part as follows: "Crews of the Yonkers-Alpine ferry boat line reported that they saw several bald eagles hovering over the ice filled river along the route of the ferry boat yesterday and, at times preying on the flocks of wild ducks resting

on the ice." At the American Museum it was stated that recently a party of ornithologists had seen nine bald eagles within a short time at Croton Point. The cold weather has caused some birds to appear further south than is usual.

Mr. Wm. T. Davis read a letter from Mr. Roy Latham, of Orient, Long Island, dated February 16, 1934, which in part is as follows: "The red spruce on Gid's Island are all dead. About ten years ago Orient got into the bad habit of burning all the salt meadows in this section. I tried to break the habit, but it was useless, the fires spread through all our woods killing the four little red spruce seedlings and the four old trees.

"This winter is interesting for record-making, so far as the weather goes on Long Island. Ice some days is packed in solid on the Sound, and such birds as Horned Grebes are found on land down on the highway near farm yards. The hair seals are more common than usual where there is open water. Several are seen at one time, occasionally near Orient Point. We had a Carolina Wren wintering on our grounds. It has been seen in the flower garden since October. It passed through all the cold snaps and was doing well, but yesterday a neighbor's cat was found eating the bird which it had caught alive. On the 17th we had a Bald Eagle in our woods. The bird was very tame and I walked to within fifty yards before it took wing. It was in about the beginning of the third year plumage; the head and tail were mottled strongly with white. On February 15, I had a close view of a strange hawk to me. The bird was very dark and had all the marks of a Gerfalcon. I had never seen anything like it before. The same day I saw a Snow Owl near the locality. Early in the month I added a fine Saw-whet Owl to my collection of birds. It appears to be a rare species here, especially in winter. I saw an adult Rusty Grackle here on February 8 flying about in a swamp above the snow. I was called over Flanders, near Riverhead, to see an albino Black Duck which a gunner took there in December, and has mounted. I saw one here in Orient about seven years ago. A friend in cleaning out a well on February 7 found a seven-inch spotted salamander living in the water."

Mr. Charles Coleman Stoddard read extracts from a journal he had kept from December 31, 1924, to April 7, 1925, while residing in a bungalow close to the sea beach at Richmond Valley.

Under date of January 2, 1925, he noted: "We do not need a lock in the house with 'Old Caddy': four times a day, almost to the minute, passing along the beach. Only a bent old man, the schoolmate of rich neighbor B—— who looks after him and has employed him to act as watchman at a lonely cottage at the water's edge on his property. A quaint figure he makes hobbling with his cane along the sands, laboriously climbing over the jetties and other obstructions, as he goes backward and forward from the home that he makes with a brother. Nobody seems to know much about him; but he has a pleasant voice and a cheerful manner, and I am sure he has a soul. Today, as he struggled on against the storm, I called to him to come in, to warm himself and to get his breath; but he refused, on the plea that it would make him late. Mr. B—— must feel proud of such loyalty to his service. It is not a usual sense of gratitude that would bring an old man like this out from his home and back again in the afternoon, on almost a useless business, in order that his employer might not lose confidence in him."

January 7. "I have spoken before of the oyster industry. There are still a few boats engaged in the business, making regular trips from the bay to the city; but even these seem to be doomed by the recent prohibition put upon oysters and other shell-fish from nearby waters, by the New York City health authorities. Preparations are now being made to transplant the few remaining beds 'up East,' where the waters are not polluted. This is the closing chapter."

January 9. "The wild carrot, ragweed and many of the tall, stiff sedge-like grasses standing above the snow, still carry an abundance of seeds; in the crevices and under the loose bark of the trees are many small spiders and numerous grubs and larvae, and though the snow persists, in spite of a full week of unusually mild weather and frosty, moonlight nights following the great storm, the birds have not suffered for food. A sparrow was feeding on the seeds of a tall ragweed this morning, just outside the window, and evidently enough had not fallen upon the snow to suit him during the night, for several times he deliberately flew up and thrashed the branches with his wings and then settled to feed upon the best of what had fallen. The seeds and stems of the wild carrot are pleasantly aromatic when the dry, bird's-nest-like tuft is crushed in the hand. It is fine to know this, for the intricately beautiful blossom-head is

practically odorless. With the whole world buried in its winter sleep, a wild fragrance like this sets the heart longing for flowers again and summer, such as no formal scent could awaken. I shall begin to-morrow to experiment with every dried weed-stalk by the roadside; lest there is some undiscovered incense that I have passed by.

"It is these discoveries, this actual experiencing of facts that we may have known from books, that makes a day with Nature so full and interesting. To the unappreciative, this might appear a bleak and dreary spot in the dead of winter, and yet no day has passed since I have been here that has not brought some observation or started some train of thought that has been of individual value and interest, and I am sure there will be as many more wherever we may be."

January 22. "The crows were back on the beach this morning—the first time in several days. I heard their familiar cawing at day-break. The weeds have withstood another tempest, and the small birds were having a noisy feast among them; but many of the tall grasses are down. An exceedingly low tide this afternoon, as always with a westerly wind, and the clam-diggers were out to take advantage of it. The beach and the flats are singularly clear of ice, though for two days or more the wind was such as brings all the drift-ice in the bay. Some of the great cakes that stranded during the storm of January 2nd are still unmelted, and no tide has been high enough to float them."

January 30. "Seals are reported seen yesterday, and several times, on the drifting ice, I have thought I made them out. They are not unusual. Scarcely a winter passes without a few visiting the bay."

March 31, 1925. "Spent a good part of the day in Richmond making plans for returning home. There are many old houses along the route, some ten miles as the roads go, between here and Richmond, and the traces of old gardens where the houses disappeared long ago. In these spots the early spring flowers of the old world, particularly daffodils and crocuses have become naturalized over considerable areas and still come up every year. About the ruins of the old Benham house near Richmond, the daffodils are spread beneath the trees like a golden carpet and afford a brilliant contrast to the sombre colored evergreens and the ivy-covered

walls. Alongside an old house nearby is what was once a glorious bulb-garden—daffodils, hyacinths, many-shaded crocuses, and later the paper narcissus, now reaching almost to the concrete roadway. The colors of these flowers strikingly brilliant in the sunlight, are even more exquisite on such a dull day as this, when all else is gray.”

The meeting of March 24, 1934, was held in the Public Museum.

Mr. Davis made the following announcement:

On the 6th of April, 1934, Mr. Charles W. Leng, one of the fourteen persons who in 1881 attended the first meeting of our Institute, and who has served as its director for nearly 15 years, will celebrate his seventy-fifth birthday. It seems fitting that some notice be taken of this event, and it is suggested that those among the Trustees who can conveniently do so, as well as his other friends, call at the Museum about 4 P. M. on April 6th to express their appreciation of Mr. Leng's services to our Institute and congratulate him on the occasion of his birthday.

Mr. John Rader reported visiting the Bird Sanctuary on March 17, and that he had observed a Fox Sparrow and two Downy Woodpeckers. The numerous skunk cabbages were about two inches high. At the creek on Cannon Avenue he noticed a Red-winged Blackbird. An old iron chain about five feet long was located near the foundation of the old Cannon house. In searching along the sand dunes south of Wild Avenue and north of Richmond Turnpike on March 18, he had found an arrow-head. A hammer-stone and a large piece of flint were discovered in the foundation of the old Price house on Price's Meadow Island, where also a Great Blue Heron was seen. Four Black ducks were observed flying over the meadows. Mr. Rader also mentioned that the sand dunes in the vicinity of Travis had been dug up by persons in search of Indian implements.

Mr. Lester Thomas reported the presence of the Scolytid beetle, *Scolytus multistriatus* Marsh, associated with the Dutch Elm Disease at New Springville.

Mr. Howard H. Cleaves showed several Indian implements including well preserved bone awls which had been dug up at the bluff near Princess Bay Light House, Staten Island, by Cecil H.

Stuart. Interesting incidents at Lake Winnebago, Wisconsin, regarding the fishing for sturgeon and perch through the ice were related by Mr. Cleaves. He described the small portable shacks used by the fishermen, and showed a number of photographs he had taken recently when visiting the lake.

Mr. George B. Wilmott exhibited a green tree frog, *Hyla cinerea*, shipped with cabbages from Georgia, that he is keeping in a terrarium.

Captain Thomas I. Miller stated that the Bluebirds had arrived in his garden at Annadale.

Mr. Carol Stryker reported on the bird feeding activities during the severe cold weather, and said that the water-cress growing in the Bird Sanctuary at New Springville had been discovered by the wild ducks. A Rough-legged Hawk and a Marsh Hawk had been seen at the Sanctuary on March 3rd. Also that a Great Blue Heron at Green Ridge was found helpless with its legs frozen.

Mr. Carlton Beil stated that on March 18 he had visited the beach with a group of boys from New York and that they had found 17 species of shells. He showed the lenses, preserved in formalin, taken from the eyes of a dead owl that he had prepared for a study skin; also the skull of a snapping turtle remarkable for its bony development and relatively small brain cavity.

A paper on the identification of trees in winter was read by Mr. George J. Rau, who illustrated his remarks with many specimens of twigs, pointing out the specific characters of each species of tree.

Mr. Wm. T. Davis showed some Coltsfoot flowers collected March 21, 1934, in the filled in land at Tompkinsville, and stated that owing to the hard winter they had appeared about a month later than usual. Since 1928 they have usually appeared on the Island in February, but in 1932, the Coltsfoot blossomed in early January at the Tompkinsville locality and by March 2 had gone to seed. In 1933 the plants blossomed at Tompkinsville on February 20. Mr. Davis also showed herbarium specimens of the aquatic moss grown in an aquarium at 146 Stuyvesant Place since before 1900. The water in the aquarium for over 33 years has not been changed, only added to as evaporation takes place. Mr. R. S. Williams, of the New York Botanical Garden, lately examined the moss and wrote concerning it: "The water-moss you send is a widely distributed, common and variable species known as *Lepto-*

Utricularia riparium (L.). It is just about what I should call the typical form."

Sixty-five photographs taken on Staten Island about 1905 to 1910 by Mr. Mulford Simms were shown. Many were of scenes in the Clove Valley of the one-time ponds and of Silver Lake.

The meeting of Saturday, April 28, 1934, was held in the Public Museum.

Mr. Charles W. Leng commented upon the pleasure he derived from growing bulbs in his garden and the small amount of care needed by some of the species that rewarded him each spring with many cheerful blossoms. He reported also, as one of the signs of Spring the appearance on April 25 at Crystal and Auburn Avenues, Port Richmond, a considerable swarm of *Cetonia inda*, the beetles, on account of this habit, being sometimes mistaken for bees.

Mr. I. C. G. Cooper had visited the *Ficaria ficaria* locality at New Springville, and found the imported butter-cup still quite plentiful by the side of the road where it has grown for a great many years.

Mr. John Rader exhibited a fine stone axe found by him on March 25 at Sandy Ground, Rossville. He had used an old umbrella rod with which he had probed the sand on an Indian site, and thus located the axe several inches below the surface.

Dr. Wm. H. Wiegmann reported seeing a Little Gull of Eurasia on the beach at Oakwood, March 23, 1934. Two gulls of this species were recorded at the September 23, 1933, meeting of the Nature Club. On the same day 77 Bonaparte Gulls were counted at Oakwood Beach. On the occasion of his visit to Manhattan Beach, Long Island, he saw 57 Snow Buntings which suddenly disappeared. Looking around for a reason, he saw a Duck Hawk that was engaged in eating one of the Buntings, and evidently had frightened the flock.

Mr. Carol Stryker stated that there was still considerable wild ginger growing at the Willow Brook locality. On April 18 a workman in La Tourette Park had found a Blacksnake under a stone which he was moving.

Mr. L. A. Ellison exhibited a rare moss, *Buxbaumia aphyllum* from Otsego County, N. Y.

Helonias bullata from the Pine Barrens of New Jersey was exhibited by Mr. Elwood Logan. This beautiful plant at one time

occurred on Staten Island: "In a maple swamp near Kreischer-ville," as recorded in the local Flora by Hollick and Britton.

Mr. Wm. T. Davis called attention to recent newspaper items relating to natural history, and also to one in the *New York Times* of April 13, 1934, where Gilmore D. Clarke, consulting landscape architect to the Park Department, records the damage done to the parks by the C.W.A. workers. "When these workers did not lean on shovels they did work which resulted in damage to trees or other park property. Some of the workers even cut down trees for fire wood. These things done to the parks are positively inexcusable. They make you want to get mad, but there is nobody to get mad at."

Much damage of this kind has been done on Staten Island, and the destruction instead of the preservation of some of our magnificent wood-land, saddens the mind of anybody able to appreciate the beauty and interesting value of natural conditions.

Mr. Davis recalled the large and imposing buildings that formed a part of the one-time Milliken Brothers Structural Steel and Iron Works along the shore at Mariners' Harbor. On Robinson's atlas of 1907, 24 buildings are shown. There was a Milliken Post-office and Milliken railroad station, now Port Ivory. With the World War came the Downey Ship Building Corporation, and Bromley's Atlas of 1917 shows additional buildings constructed near the Kills to suit their activities. With the end of the war the ship building company went out of business, and the neglected buildings fell into decay. Though the buildings for the most part are gone, and even the cinders from the old furnaces are disintegrating to an appreciable degree, some humble pine knots that once formed a part of the sleepers of the railroad, long since vanished, are the enduring evidence of the industrial activity of a quarter of a century ago. The Millikens and the Downeys would hardly have believed that wooden pine knots would outlast their great and imposing factories, and that a herd of goats and their keeper would occupy the scene.

A splinter from a pine knot was lit with a match, and burned as freely as a candle.

A paper on the nature and destruction caused by bark beetles, with particular reference to the species associated with the Dutch Elm Disease, was read by Mr. George J. Rau.

The meeting of Friday, May 25, 1934, was held in the Public Museum.

Mr. Carlton Beil remarked on the great number of tent-caterpillar nests this year, nearly all on the wild cherry. At one time Bird's-foot violets were one of the common species on Dongan Hills. Mr. Beil stated that he knew of a small area where there was still a considerable number. Mr. Beil showed a few specimens of the Curly-grass fern collected near Double Trouble in the Pine Barrens of New Jersey.

Mr. Charles L. Ragot showed a deformed specimen of *Planorbis corneus* var. *rubrum*, grown in an aquarium.

Mr. Carol Stryker reported that workmen in digging a ditch in Willow Brook Park in April, had found one snapping turtle, four painted turtles and one spotted turtle, all 6 to 8 inches below the surface of the mud. The gray squirrels in Barrett Park were recently observed eating the buds of the elm as they often do in the spring of the year.

Mrs. Stryker reported finding about a dozen plants of the Nodding Trillium in the Bird Sanctuary, New Springville Park, May 1, 1934.

Mr. I. C. G. Cooper stated that he had made several excursions to the vicinity of Willow Brook and had noted 53 species of flowering plants. Among them there were seven species of violets, *Ranunculus* (*Ficaria ficaria*), Dwarf Ginseng, Wild Ginger and a few other woodland species.

Mr. Wm. T. Davis stated that he had found on April 20, 1934, a male box turtle that had come from its winter quarters in the woods near Betty Holmes Brook and Arthur Kill Road. This is rather an early date for Staten Island. (See Notes on "The Common Land Turtle," Pro. Nat. Sci. Assn. of S. I., March, 1897.)

The first Monarch butterfly seen on the Island this year was observed on Todt Hill, May 5, and on May 6, a Whip-poor-will was calling in the night at 146 Stuyvesant Place, St. George. A number of Bobolinks have returned to the meadows near Oakwood and several were seen near the old lane that leads from Mill Road across the meadows to the beach, a short distance to the southwest of Guyon Avenue.

On May 12, 1934, Mr. Hans L. Stecher found on a high-tide bush near Mill Road, Oakwood, what appears to be an egg-mass of

the Narrow-winged Mantis, *Tenodera angustipennis*. On May 24, four more of these egg-masses were found at the same locality by Mr. Davis and Dr. Wm. H. Wiegmann. As all of the eggs had apparently died in these egg-masses, it was suggested that they may have been killed by the severe winter of 1933-34. (See Records of the Nature Club for January 28, 1933, and March 25, 1933.)

Literature relating to Staten Island

An Intertidal Moss Mite in America. Journ. N. Y. Entomological Soc., XLII, Sept. 1934, pp. 329-338, pl. XX. In this paper Arthur Paul Jacot records the occurrence at Eltingville Beach, Staten Island, of *Northus* (?) *marinus*, on May 18, 1919, on rocks submerged at mid-tide and covered with fine algae. It is made the type of a new genus *Hygroribates*; and the author considers that it "must have been introduced, probably on ship ballast, during the sailing-ship days." It is not quite one millimeter in length.

Records of Meetings

CONDENSED REPORT OF INSTITUTE MEETINGS

Saturday, October 21, 1933.—Mr. Howard H. Cleaves spoke on "Adventures with the Camera," with illustration by still and motion pictures. The president exhibited a jasper meat chopper from an Indian site at Rossville (see p. 109), and announced the beginning of a Zoological Garden in Barrett Park, the establishment of a Bird Sanctuary in New Springville Park, and the restoration, in progress, of the County Clerk and Surrogate building in Richmond.

Saturday, November 18, 1933.—Mr. Harry C. Raven spoke, with still and motion picture illustration, on "Meshie, the Child of a Chimpanzee," followed by the appearance of Meshie in person, riding a tricycle, eating with spoon and fork, unfastening complicated knots, etc.

Saturday, December 16, 1933.—Col. Edwin A. Havers spoke, with lantern slide illustration, on "Gardens of the World."

Saturday, January 20, 1934.—Mr. Arnold H. Haverlee spoke on "With Arctic Nomads," describing an entire summer and part of the following winter spent with the Lapps of Norway, Sweden and Finland. Examples of the arts of these people, paintings by Mr. Haverlee, as well as lantern slides, illustrated the speaker's interesting account of his unusual experiences.

Saturday, February 17, 1934.—Mr. Augustus E. Califano spoke, with lantern slide illustration, on "Cruising in the Caribbean."

Saturday, March 17, 1934.—Under the auspices of the Staten Island Microscopical Society, an exhibition of microscopic objects was given by nineteen exhibitors, varied by lantern slide projection of photomicrographs.

The exhibitors were George E. Ashby, Frank M. Ashley, Irving Banner, Joseph F. Burke, William T. Davis, John A. Grenzig, Charles W. Leng, Edward Lucey, Wesley E. McArdell, Thomas I. Miller, Agnes Vinton Miller, John M. Sheridan, Dr. Frank A. Strauss, Peter Thein, Dr. William H. Wiegmann, George B. Wilmott, Gladys H. Wilmott, and of photomicrographs, Phillip O. Gravelle and Robert Hagelstein. The following objects were projected on the screen by lantern slides:

Amoeba,
Radiolaria,
Spicules (arranged by Rinnebock),
Water Flea,
Dragonfly Larva. Head and Mask,
Mosquito,
Mouth Parts of Mosquito,
Compound Eye of Insect,
Foot of Spider;

Mycetozoa, *Arcyria denudata*,
Spirogyra crassa, in Conjugation and Zygospores,
Euglena viridis,
Volvox globator;

Pollen of Hollyhock,
 Geranium, Section of Stem,
 Clematis, Section of Stem,
 Ash, Section;

Crystals in Skin of Onion,
 Deutschia, Stellate Hairs,
 Starch of Canna, Polarized Light;

Arachnoidiscus indicus,
Arachnoidiscus ehrenbergii,
 Diatom, Sendai, Japan,
Surirella gemma, Darkfield;

Arranged Diatoms, Thum;

Supervisor of the Pool.

Saturday, April 21, 1934.—Mr. W. L. Calver spoke on "Local Archaeology," with lantern slide illustrations of his discoveries, including a complete Indian pot.

Saturday, May 19, 1934.—Mr. Charles W. Leng, under the title "Around the World with Mr. George W. Tuttle," showed lantern slides made from Mr. Tuttle's photographs, after which Mr. Tuttle spoke briefly. Annual reports, printed below, were received and Mr. Joseph F. Burke was elected a trustee of the Institute, to succeed Mr. Gardner, who had removed from Staten Island.

MEETINGS OF SECTIONS AND COMMITTEES

SECTION OF HISTORICAL RESEARCH

George W. Tuttle, chairman.

There has been no meeting of this section; its members have, however, participated in the meetings of the Staten Island Historical Society and have otherwise continued the historical activities of the Institute.

In August, 1933, Mr. Davis and Mr. McMillen assisted the State officials in placing eight historical markers. Signal Hill, Old Town, French Church, Battle Hill, Burial Place, Christopher House, Perine House, and Conference House were thus marked. During the same month the restoration of old county buildings in Richmond was commenced, and subsequently the Britton Cottage was measured by Federal architects and their records filed in the Library of Congress.

In September, 1933, historical lectures for children were resumed in the Museum, embracing Staten Island History, Staten Island Indians, Discovery of America, Pioneers of America, Abraham Lincoln, George Washington, and Pilgrim Fathers. These were given by Mr. Leng, Mr. Beil, or Mr. Stryker; the latter also gave his lectures on Indians at several schools.

On October 9, February 22, and May 21, meetings of the Staten Island Historical Society¹ were held in the Stillwell-Perine House, at which Dr. L. M. A. Haughwout told of studies on the exact location of Old Town, assisted by Mr. McMillen and Mr. Howard R. Hill. These investigators, with Mr. Burton A. Kollmer reported continued search for old houses and their sites, and Mr. Godfrey Birdsall exhibited manuscript abstracts of wills 1787 to 1826. The Historical Society participated also in the Institute meeting of April 21, 1934, at which Mr. Calver spoke and Mr. John Rader exhibited his archaeological discoveries.

On November 1, 1933, the 250th anniversary of the erection of Richmond County was celebrated in the Court House at Richmond, under the direction of Mr. Cornelius G. Kolff.

On November 5, 1933, the 225th anniversary of the founding of the Church of St. Andrew was celebrated. Among the speakers was Mr. Leng, who told the history of Rev. Aeneas Mackenzie, the founder and first rector.

The hospitality of the Museum has been gladly extended to organizations like Alden Kindred, Huguenot Descendants, Daughters of American Revolution, for meetings; and its records have been willingly placed at the disposal of many individuals seeking historical and genealogical data.

On May 21, 1934, Mr. William T. Davis was reelected president of the Staten Island Historical Society; its other officers being Mrs. T. Livingstone Kennedy, vice-president; Dr. Frank A. Strauss, secretary; Mr. Harry Kuhn, treasurer, and Mr. Loring McMillen, custodian.

Accessions have been received from Mrs. George W. Dix, W. Leslie Conner (deceased), Edward Wanty, U. G. Sprague, Miss Emilie O. Long, John Rader, Robert Greaves, Mason A. Stone, Mrs. Genevieve Taber.

SECTION OF NATURAL SCIENCE

Charles W. Leng, chairman.

The operations of this section are so diverse that they have been for several years performed by separate groups, the Nature Club, the Microscopical Society, Woodcraft Group, Bird Club, Horticultural Society; to these have been added during the past year a Reptile Study Club, an Aquarium Society, and a Zoological Society, each being separately reported.

Outstanding events of the year have been the opportunities afforded by the excavations at St. George¹ for widening the viaduct for new studies of Staten Island Geology, of which advantage has been taken by Mr. Burke and Mr. Rader; the continued study of marine life by Mr. Stecher, resulting in new exhibits in the Museum of which a list is appended; and the establishment of a Bird Sanctuary on Staten Island. Progress has also been made in the erection of an animal house in Barrett Park, which has required much of Mr. Stryker's time; Mr. Beil has therefore been called

¹ From this locality additions were made to the Museum collections, including specimens of chlorite schist and hornblende schist, the latter containing numerous small but perfect dodecahedral garnets.

upon for lectures on natural science, and for modeling of sea-anemones, in both fields with gratifying success.

Our relations with other groups interested in natural science have continued. Mr. Davis and Mrs. P. A. Bonney have aided the Girl Scouts; several members have given tests for them and for Boy Scouts; Mr. Stryker has given lectures on snakes, birds, and wild flowers at various clubs and schools; Mr. Davis has led the Prince Bay Woman's Club on spring walks; and Mr. George J. Rau, of Syracuse University, has spent many days and evenings in the study of Mr. Davis's collection of forest insects. Our work with schools is given below.

Some notable accessions have been the squid, *Loligo pealci*, and seventy other marine invertebrates, received from Dr. Philip Dowell; a Richardson's Owl, from Mrs. T. M. Garson; a mounted Ptarmigan, from Miss Ruth B. Fisher; a sea urchin, from Dr. W. H. Wiegmann; a young weasel, through Mr. Elwood Logan; a Brown Rat, from Mr. Harrison Johnson; two red squirrels (living) and a Florida Gallinule, from Mr. Howard H. Cleaves; a Clapper Rail, mounted, as were several other specimens, for the Museum by the Bird Club.

The Museum Zoo, almost entirely the work of Mr. Hans L. Stecher, has continued with its ever changing exhibits to be one of the attractions of the Museum, and contained in May, 1934, the following species of animals and plants, 88 in all, *viz.*:

MAMMALS

Red Squirrel—*Sciurus hudsonicus*.

Eastern Chipmunk—*Tamias striatus*.

White-footed Mouse—*Peromyscus maniculatus* (Mass.).

White-footed Mouse—*Peromyscus maniculatus* (Staten Island).

White Rat—*Rattus norvegicus* var. *albinus*.

House Mouse—*Mus musculus*.

SNAKES

Imperial Boa—*Boa imperator*.

Cuban Boa—*Epicrates angulifer*.

Chain Snake—*Ophibolus getulus*.

Chain Snake—*Ophibolus getulus* (Southern form).

Corn Snake—*Coluber guttatus*.

Chicken Snake—*Coluber obsoletus* var. *quadri vittatus*.

Milk Snake—*Ophibolus doliatus clericus*.

Milk Snake—*Ophibolus doliatus triangulus*.

Indigo Snake—*Spilotes corais couperi*.

Garter Snake—(Common)—*Eutaenia sirtalis*.

Garter Snake—(Albino form)—*Eutaenia sirtalis*.

Garter Snake—(Southern form)—*Eutaenia sirtalis*.

Water Snake—*Tropidonotus fasciatus sipedon*.

Ring-necked Snake—*Diadophis punctatus*.

DeKay's Snake—*Storeria dekayi*.

TURTLES

- Box Terrapin—*Cistudo carolina*.
 Cumberland Terrapin—*Chrysemys elegans*.
 Diamond-back Terrapin—*Malacoclemys palustris*.
 Geographic Terrapin—*Malacoclemys geographica*.
 Lesueur's Terrapin—*Sternotherus odoratus*.
 Painted Terrapin—*Chrysemys picta*.
 Spotted Terrapin—*Chelopus guttatus*.
 Snapping Terrapin—*Chelopus serpentina*.
 (Since spring of 1920.)
 Wood Terrapin—*Chelopus insculptus*.

LIZARDS

- Pine Swift—*Sceloporus undulatus*.

FISH

(Native)

- Carp—*Cyprinus carpio*.
 Banded Sunfish—*Mesogonistius chaetodon*.
 Eel—*Anquilla rostrata*.

(Tropical)

- Brazilian Catfish—*Corydoras paleatus*.
 Florida Flag Fish—*Jordanella floridae*.
 Guppy—*Lebistes reticulatus*.
 Lacetail Guppy—*Lebistes* sp.
 Leopard Fish—*Gambusia holbrooki*.
 Pearl Danio—*Danio albolineatus*.
 Zebra Fish—*Danio rerio*.
 Bloodfin—*Aphyocharax rubripennis*.
 Swordtail—*Xiphophorus helleri*.
 Girardinus—*Phallocceros caudomaculatus reticulatus*.

FROGS

- Anderson's Frog—*Hyla andersonii*.
 Spring peeper—*Hyla pickeringii*.
 Swamp Tree Frog—*Chorophytus nigritus*.
 Green Frog—*Rana clamitans*.

SALAMANDERS

- Red-backed Salamander—*Plethodon cinereus*.
 Spotted Salamander—*Ambystoma maculatum*.
 American Newt—*Triturus viridescens*.
 Red Eft—(Land stage of *Triturus*).

INSECTS

- Grain Beetles—*Oryzaephilus surinamensis*.
 Horned Passalus—*Passalus cornutus*.
 Carpet Beetle—*Anthrenus scrophulariae*.
 Tiger Beetle—*Cicindela sexguttata*.

MARINE LIFE

- Sea Anemone: Orange-streaked A.—*Sagartia luciae*.
 Gem A.—*Bunodes gemmacea*.
 White armed A.—*Sagartia leucolena*.
 Barnacles—*Balanus balanoides*.
 Hermit Crab—*Pagurus pollicaris*.
 Mud Flat Snail—*Nassa obsoleta*.

MISCELLANEOUS

- Alligator—*Alligator mississippiensis*.
 Tarantula (Bird spider).

PLANTS

- | | |
|------------------------------|-------------------------------------|
| <i>Aloe shimperi</i> . | <i>Mesembrianthemum deltoides</i> . |
| <i>Aloe mitrifomis</i> . | <i>Mesembrianthemum echinatum</i> . |
| <i>Gasteria maculata</i> . | Prickly Pear. |
| <i>Gasteria trigona</i> . | <i>Sedum sempervivum</i> . |
| <i>Crassula coccinea</i> . | <i>Vriessa</i> . |
| <i>Euphorbia splendens</i> . | Inch Plant— <i>Tradescantia</i> . |

AQUARIUM PLANTS

- | | |
|----------------------------------|-----------------------------|
| <i>Valesneria spiralis</i> . | <i>Salvinia natans</i> . |
| <i>Ludwigia palustris</i> . | <i>Riccia fluitans</i> . |
| <i>Cabomba caroliniana</i> . | <i>Sagittaria natans</i> . |
| <i>Fontinalis antipyretica</i> . | <i>Juncus repens</i> . |
| <i>Elodea densa</i> . | <i>Myriophyllum laxum</i> . |
| <i>Elodea canadensis</i> . | <i>Utricularia</i> . |

SECTION OF ART

- Robert Waterman Gardner, Honorary Curator.
 Mrs. F. Winthrop White, chairman Art Committee.
 Agnes C. Nash, Museum Assistant in Art.

During the past year the following exhibitions were held under the auspices of the Art Committee, viz.:

- June, 1933.—Children's Exhibit.
 July, 1933.—Work of pupils of William Hurd Lawrence.
 August, 1933.—Work of the Museum Drawing Class.
 September, 1933.—Water Colors by F. L. Stoddard.
 October, 1933.—Memorial Exhibition of paintings by Ernest Beaumont.
 November, 1933.—Annual Exhibition of oils by Staten Island artists.

December, 1933.—Japanese prints.

January, 1934.—Water Colors and Pastels from the National Association Women Painters and Sculptors.

February, 1934.—Photography by Percy L. Sperr and Joseph Berman.

March, 1934.—Annual Exhibition of Water Colors and Pastels by Staten Island artists.

April, 1934.—Paintings by Ely Maxim Behar.

May, 1934.—Water Colors and Pastels by Alida Vreeland and Charlotte Livingston.

The members of the Art Committee besides Mrs. White, chairman, were Mrs. Henrietta Beaumont, Mrs. Howard H. Cleaves, Mrs. Homer E. Marshall, Miss Carolyn C. Mase, Mrs. Otto C. Wigand.

The artists whose work was exhibited during the year were: Edith Adams, Faust Azzeretti, Myer Barkin, Ida B. Barletta, Arthur Beaumont, Ernest Beaumont Memorial, Henrietta Beaumont, Ely M. Behar, Mrs. E. I. Behar, W. J. Berman, Bessie Blauvelt, Dorothy Brugger, Mary Bayne Hubbard, Frank A. Busing, Louise Cameron, Muriel Cleaves, Dora Crosby, Herman Darsen, Artemis Darsen, Horace Day, Josephine Dockray, Fernando Fingado, Eleanor Fichtmüller, Mary G. Fisher, Jeanette Gallicchio, Agnes Griffen, Robert Hallowell, Florence Harper, Arthur C. Henshaw, J. C. Illers, Richard Kroth, Ernest Krunglivicus, Adna Lawrence, William Lurd Lawrence, Joseph Latham, W. Irving Lewis, Charlotte Livingston, Mrs. Bowman Lloyd, Mr. and Mrs. McMillen, Eleanor Marshall, Frederick Marshall, Carolyn C. Mase, Betsy Flagg Melcher, George Michaud, Mary B. Millspaugh (deceased), J. J. McCrave, Agnes C. Nash, Dorothy M. Nye, Dorothy Oakes, Margaret Otto, Mrs. H. G. Otto, Eleanor Pettersen, Harriet B. Poutasse, Grant Rapp, Philip Rice, Ethel Ridgewood, Richard E. Roberts, G. Schmidt, Gertrude Schmolat, C. L. Schaefer, Percy Loomis Sperr, Carol Snell, Mrs. Snell, Marie Gore Shanks, William A. Stahl, Sam Nash, Sam Theobald, Mrs. Theobald, Ruth Tysen, David Varon, Armand Van Pelt, Alida Vreeland, A. Albright Wigand, Otto C. Wigand, Emma L. R. White, and Charlotte Woodruff.

There were 36 meetings of the Museum Drawing Class, with an average attendance of 18, on Saturday mornings. The children were encouraged to do original work on posters for "Safety First," and for "Visit the Museum," and on Easter, Hallowe'en and Christmas cards. Museum material supplied motifs from Chinese and Indian articles for designs. The month of April was devoted to Soap Sculpture. Miss Nancy Phillips, of Curtis High School, and a pupil of the class for several years, has assisted Miss Nash at these meetings, the expenses of which have been met by a small registration fee.

Accessions during the year included eight books on Modern Art from Mr. W. R. Britton, and 22 examples of engravings, pottery, etc., from the same friend, Mr. and Mrs. W. R. Adams, Miss Cecile Contessa, Mrs. George W. Dix, and Mason A. Stone.

The exhibition of Japanese prints was elucidated by an illustrated lecture by Mr. Huger Elliott, of the Metropolitan Museum.

The auditorium was used in February for an exhibit of posters on Tree Conservation, executed by public school children, and directed by Miss Frances Gessner.

SECTION OF BELLES LETTRES

Mrs. David Grimes, president; Mr. Charles Coleman Stoddard, secretary.

This section held regular monthly meetings, usually on Sunday afternoons at the homes of its members, with an annual dinner which was held April 14, 1934, at the 1700 House on Tysen's Lane.

The monthly meetings were held as follows:

May 29, 1933, at the residence of Mr. and Mrs. Edw. D. Gunnell. Miss Mabel Abbott spoke on "The Trend of the American Theatre," and Mr. A. W. Callisen on "The First American Comedy."

October 29, 1933, at the residence of Mr. and Mrs. Willard M. Grimes. Mrs. Mark B. Kerr spoke on "Old English and French Folk Songs." Miss Abbott, Miss Kay Macrae, Messrs. Stoddard, Kolff, and Callisen contributed to the program.

November 26, 1933, at the Stillwell-Perine House. Mr. Cornelius G. Kolff spoke on "History."

January 28, 1934, at the residence of Miss Katherine Grey and Miss Josephine Dockray. Mr. Stewart Rouse, of *Popular Science Monthly*, spoke on "Adapting Pictures to the Text"; Miss Alice M. Lawrence on "Models of Some Famous Paintings," and Miss Katherine Grey read selections from Robert Browning.

March 23, 1934, at the residence of Mr. Joseph W. Latham. Messrs. W. M. Grimes, Lawton Mackall, and A. W. Callisen spoke on "American Humor."

April 29, 1934, at the Stillwell-Perine House. A presentation of "The Contrast," directed by Mrs. David Grimes. Mr. Loring McMillen, Mr. Callisen, and Mr. Davis spoke and Mr. Stoddard read several poems.

WOMAN'S AUXILIARY

Mrs. John B. Handley-Greaves, president; Mrs. Harry F. Towle, Mrs. Hermann Lindheimer, Mrs. Anton W. Hoffmeyer, vice-presidents; Mrs. George W. Batz, treasurer; Mrs. Charles L. Schaeffer, recording secretary; Mrs. Willard Grimes, corresponding secretary.

The meetings held by the Auxiliary were as follows:

May 31, 1933.—Annual meeting followed by motion pictures of "Child Life in China."

October 25, 1933.—Joint meeting with the Staten Island Garden Club.

November 1, 1933.—Musical at the residence of Mr. and Mrs. Ernest Flagg; organ recital and Miss Maud Morgan, harpist.

November 29, 1933.—The Rubaiyat read by Mrs. Henry Willis Phelps, and illustrated by Muriel Mattocks Cleaves.

December 27, 1933.—Japanese Prints illustrated and explained by Mr. Huger Elliott, of Metropolitan Museum of Art.

January 31, 1934.—Current Events discussed by Mrs. Lester Brown.

February 23, 1934.—"My Experiences as a Campaigner," by Mrs. Edward Herbert.

March 28, 1934.—"Experiences as a Woman Lawyer," by Mrs. Isabel Chees Kappeyne.

April 25, 1934.—Annual Luncheon, under the management of Mrs. Anton V. Hoffmeyer. The guest speaker, Mrs. Mary L. Jobe Akeley, spoke with lantern slide illustrations of her adventures in Africa.

During the year the Auxiliary had occasion to regret the death of Mrs. Rachel S. Skinner on June 5, who had been of great service to the Institute. At the annual luncheon, Mrs. Louis A. Dreyfus, Mrs. Ernest Flagg, and Miss Maud Morgan were their honored guests.

One-half the cost of repainting the auditorium and main exhibition hall was paid by the Auxiliary.

HOSPITALITY COMMITTEE

The custom of closing the various meetings with light refreshments, and social gathering of members and visitors, has been continued. Mrs. H. A. Witte and Mrs. A. A. Rottmann, chairman, respectively, of the Institute and Auxiliary Committees, have had the assistance of many other members in this feature of our meetings.

EDUCATIONAL PROGRAM

On the main floor of the Museum there are permanent exhibits of Staten Island History, illustrated by miniature groups made by Ned J. Burns, and by cases of Indian, Colonial and Revolutionary objects, arranged and labeled by Agnes L. Pollard. The natural history of the Island is shown by four cases illustrating the Geology, arranged by the late Dr. Arthur Hollick, and provided during the year with plates to his memory; a Bird alcove showing mounted specimens, eggs, and nests, commenced many years ago by Dr. James P. Chapin and continually increased by donations from Staten Island Bird Club; cases of mounted specimens of Mammals, Fishes, Amphibians, Reptiles, Insects, Shells, Marine Invertebrates, several of which have been rearranged by Mr. Hans L. Stecher; there are also cabinets with drawers filled with butterflies, moths, beetles, grasshoppers, etc., largely from the collections of Mr. William T. Davis, and accurately named. These collections are open to the public, as are the books relating to them in the library on the main floor, and members of the staff will gladly assist the visitor in the use of both.

A further aid is furnished by temporary exhibits of objects of interest and, in natural science, by the living animals and plants in the Museum Zoo, a list of which is given on a preceding page.

For children the educational program included:

Drawing Class on Saturday morning, conducted by Miss Agnes C. Nash, assisted by Miss Nancy Phillips, and varied by lessons in soap sculpture, by visits to the museums in Manhattan, and by outdoor sketching.

Stamp Club on Monday afternoon, conducted by Mrs. P. A. Bonney, by which the geography, products, etc., of various countries were studied as illustrated by their postage stamps. An additional meeting was provided for those unable to attend on Monday.

Woodcraft Group meetings on Tuesdays, Wednesdays, Thursdays and Fridays, conducted by Carol Stryker, with the assistance of Carlton Beil, Dakin Horn, Miriam Campbell Stryker, and Marion Olwig. Twice a month outdoor walks were held on Saturdays; and the instruction in natural science, which is the main object of the meetings and walks, was supplemented on Saturdays by intensive work with Mrs. Stryker and Miss Olwig. During the past season this group had also the benefit for a time of conference with Mr. Lester Thomas.

Lectures were given on Friday afternoons by Mr. Leng, Mr. Stryker, or Mr. Beil. The subjects included local and American history, geography, nature study, and industries, and were correlated with the public school work in these subjects. On Thursday afternoons lectures on similar subjects, as chosen by the teachers, were given to classes from P. S. 16 and on other days to classes from P. S. 46 and various public and private schools, including also High Schools and Hunter College. When required these lectures were given *at* the schools; and notice of subjects and dates have been mailed monthly to the nearby schools.

During the year the lantern slide collection used in illustrating these lectures has been enlarged by a contribution from the fund for educational service received from the Carnegie Corporation.

For adults the educational program has been summarized at the request of School of Education, New York University, and includes, in addition to the exhibits, etc., noted above, the Herbarium, containing the collections of the late Dr. N. L. Britton, the late Dr. Arthur Hollick, Mr. William T. Davis, Dr. Philip Dowell, and others; the entomological collections and library of Mr. Davis, and the historical and genealogical library, maps, and documents which, with the advantage of the experience of Miss Agnes L. Pollard and Mr. Leng, are open to students. It also includes opportunities, in connection with the meetings of our various sections and affiliated societies, for intercourse with men and women learned in various arts and sciences; and finally the receipt by our members of the "Proceedings." Our educational program has been materially assisted by a grant for the last five years from the Carnegie Corporation.

AFFILIATED SOCIETIES

STATEN ISLAND BIRD CLUB

Howard Henderson Cleaves, president; William T. Davis, Mrs. H. M. Trench, Mrs. L. A. Dreyfus, Dr. Frank A. Strauss, vice-presidents; Charles W. Leng, secretary-treasurer; Carol Stryker, field-secretary.

Twelve monthly walks were held, four of which ended in social gatherings at the homes of Mrs. M. A. Seery, Mrs. Miriam C. Stryker, Mrs. Soriano and Miss Olwig.

Mr. Stryker made the address at the annual meeting on May 23, 1934, on "Bird History of the Year."

The Christmas Bird Census was made by Mr. Cleaves, Mr. Stryker, Dr. William H. Wiegmann, and Mr. Mark C. Rich; it listed 43 species and 1,411 individuals.

An increased number of feeding stations were maintained; in addition to the feed supplied by the club, nearly 1,000 lbs. was contributed by citizens and distributed by the members.

The principal event of the year was the establishment of the Staten Island Bird Sanctuary, an area of about 51 acres in New Springville Park, comprising wooded upland facing on Travis Avenue, and salt meadow traversed by branches of the Fresh Kill. It was selected by Mr. Ernest G. Holt, director of Audubon sanctuaries; Dr. James P. Chapin, of the American Museum of Natural History; Mr. William T. Davis, president of the Staten Island Institute of Arts and Sciences, and Mr. Carol Stryker, field-secretary of the Staten Island Bird Club. Arrangements for its establishment were made with Park Commissioner John J. O'Rourke by the National Association of Audubon Societies, and were materially assisted by the gift of one thousand dollars from Mr. Davis towards the cost of fencing. On December 9, 1933, the members of the Bird Club visited the sanctuary, where they met Mr. Robert P. Allen, of the Audubon Societies, and Mr. George Wort, under whose direction the inner and outer fences had been erected, and saw the bird houses placed by Mr. Stryker with the cooperation of members of the Woodcraft group.

Cloth posters warning trespassers that the sanctuary was a Wild Life Refuge, protected by law, which had been prepared by Mr. Cleaves, were also displayed.

STATEN ISLAND HORTICULTURAL SOCIETY

Fred S. Heal, president; Frank P. Baumann, secretary-treasurer.

Five flower shows, each lasting three days, were given, *viz.*:

Iris, May 27-29, 1933, managed by Mr. Fred A. Holder-Egger.

Rose, June 10-12, 1933, managed by Mrs. Homer E. Marshall.

Gladiolus, August 12-14, 1933, managed by Mr. H. H. Backofen.

Dahlia, September 23-25, managed by Mr. R. C. Benedict.

Chrysanthemum, October 28-30, managed by Mr. F. P. Baumann.

At each of these shows, flowers other than those named were also shown.

The exhibitors at the shows, besides the managers, were: Mrs. Walter L. Booth, Mr. Harry H. Burrucher, Mr. Walter F. Butcher, Mrs. William Birmingham, Mr. Charles Bachmann, Mr. Stephen K. Burgher, Bergen Gardens, Mr. Carl Carlsen, Mr. Frank S. Cooke, Mrs. Fred H. Davison, Mr. Fred Drake, Mrs. Viola Fuller, Mrs. C. F. Grieshaber, Mr. Harrison Johnson, Mr. Herbert Kolb, Mr. Morris A. Lunn, Mrs. C. W. Leng, Mr. Matthew Lehn, Mr. N. F. Macdonald, Mrs. Joseph Neumann, Mr. Hans Olsen, Mr. Harry Quirk, Mrs. W. H. Pott, Mr. Harry Rynierse, Mr. William Romer, Mrs. T. F. Stuart, Mrs. F. C. Townsend, Mrs. Valentine, Mr. J. Mortimer Vanderbilt, Mr. R. C. Wigand.

The judges at the shows were Mr. Otto J. Lundt, Mr. W. H. Waite, Mr. T. A. Weston.

On April 11, 1934, an illustrated lecture on "Rock Gardens and Pools," by Alfred C. Hottes, associate editor of *Homes and Gardens*, was presented, with some additions of Staten Island scenes, by Mr. Leng. The members had also an opportunity of hearing Col. Edwin A. Havers on "Gardens of the World," on December 16, 1933. Regular quarterly meetings of the society were held September 13, December 13, and March 14.

STATEN ISLAND MICROSCOPICAL SOCIETY

Mr. George E. Ashby, president; Mr. Joseph F. Burke, secretary-treasurer.

Meeting of October 4, 1933. Mr. George E. Ashby exhibited microscopical preparations of recent and fossil foraminifera and of fossil polycistina; also sections of fresh-water sponge from Cold Spring, L. I., and fossil sponge in flint from the chalk cliffs of Dover, England. In addition he exhibited larger specimens of fossil foraminifera and sponges. Mr. Joseph F. Burke submitted a classification of the phyla Protozoa and Porifera and exhibited books on the subject from the libraries of the Museum and Mr. William T. Davis. He showed slides mounted by Powers & Powers of various protozoans and sponges. Mr. Peter Thein became a member.

Meeting of November 1, 1933. Capt. Thomas I. Miller presented a paper on Hydroids, emphasizing the necessity of having the complete animal for study and not merely the remains usually found on the beaches. He displayed 51 slides of these organisms describing their preparation and showed a number of the most useful papers published on this group. Mr. George E. Ashby showed slides of siliceous fossil corals, in thin section; also a glycerine jelly mount, prepared forty-two years before by the Rev. J. L. Zabriskie, of an insect captured by the sun-dew, *Drosera longifolia*. Mr. Wm. T. Davis showed a number of books on the zoological phyla under discussion. Mr. Joseph F. Burke demonstrated and described Rheinberg Illumination, three methods of which are given in the *American Monthly Microscopical Journal*, January, 1900. He showed the diatom *Surirella febigerii* by this method. Mr. John M. Sheridan discussed the use of colored glass for filters.

Meeting of December 6, 1933. Mr. George E. Ashby exhibited a rock section—a vesicular porphyritic basalt—under the petrographic microscope and illustrated the component minerals and structure by means of a colored drawing. Mr. Joseph F. Burke described and demonstrated darkfield illumination, showing how it may be obtained with the regular substage condenser and appropriate stop.

Meeting of January 3, 1934. Annual Meeting. Mr. George E. Ashby was elected president, succeeding Mr. Joseph F. Burke, who became secretary-treasurer. Capt. Thomas I. Miller read a paper on Bryozoa, describing the organisms and how they occur. He exhibited several published papers, useful to the student. Mr. Joseph F. Burke showed, under the

Greenough microscope, a specimen of quartz with gothite inclusions, from Overbrook, Penn., taking the form of figures "216."

Meeting of February 7, 1934. Mr. Joseph F. Burke discussed the desirability of keeping a notebook in the form of a journal to record observations at the time they are made; he illustrated his remarks, by taking an item from his own notebook, of observations made on living bacteria that had developed in pond life collected at Clove Lake, Staten Island. Together with Mr. William T. Davis, he had observed in active motion the flagella of a large spirillum species, using darkfield illumination obtained by a substage stop, an 8 mm. objective of 0.65 N.A. and a magnification of 300 diameters.

Institute Meeting, March 17, 1934. Annual Exhibition. Directed by the Staten Island Microscopical Society. Program as follows: Tourmaline Granite, Luxullianite, from Cornwall, England—Oolites, from Oolitic Limestone, Carlsbad, Bohemia (Shown by polarized light, with automatic revolving polariscope), George E. Ashby. Scales of the Eel—Example of Fine Mechanical Workmanship, Frank M. Ashley. Microphotograph, Declaration of Independence, from Steel Engraving by Geo. G. Smith—Color Screen of Paget Photographic Plate, Irving Banner. Photomicrograph of Grayson Ruling 120,000 lines to the inch, taken by Robert Hagelstein—Color Plate from National Geographic Magazine (Shown under low-power binocular microscope), Joseph F. Burke. Wood-boring Beetle, *Chrysobothris azurea*—Tree-hopper, *Thelia bimaculata*, William T. Davis. Glauconite, Southern New Jersey—Book Louse, *Atropus* species, William T. Davis. Artificial Rubies—Crystallized Gold, Manhattan, Nevada, John A. Grenz. Ship-worm, *Teredo navalis*—Fly (*Scatophaga* species) mounted entire, Charles W. Leng. Esophagus of Rabbit—Liver of Dog Showing Blood Capillaries (Two slides prepared by Exhibitor's father, Dr. J. D. Lucey, as a student), Edward Lucey. Meteorite, Canyon Diablo, Arizona—White Cast Iron (Shown under metallurgical microscope), Wesley E. McArde. Azurite, a copper mineral—Obelia, medusoid or jellyfish stage, Thomas I. Miller. Quartz crystal, Herkimer County, New York—Sertularia, a colonial hydroid, Agnes Vinton Miller. Various Insect Eggs—Embryo Oysters, the oyster spat, John M. Sheridan. Cross-section of Petiole of Palm—Sections of Pine Wood, *Pinus lambertiana*, Dr. Frank A. Strauss. Quartzite from Glacial Drift Staten Island—Brazilian Diamond Beetle, Peter Thein. Epidermis of Sea Cucumber, *Caudina arenata*, with calcareous plates *in situ*—Diatom, *Arachnoidiscus Ehrenbergii*, gold-plated, Dr. Wm. H. Wiegmann. Foot of House-fly—Feather of Humming Bird, George B. Wilmott. Shells, *Buliminus marginatus*—Lichen, Gladys H. Wilmott. Photomicrographs, Phillip O. Gravelle, Robert Hagelstein. Lantern slide projection of photomicrographs, Phillip O. Gravelle. Exhibition Committee, Irving Banner, Joseph F. Burke, Dr. Wm. H. Wiegmann.

Meeting of April 4, 1934. Exhibition by members of selected mounts followed by a discussion thereof.

In addition short reports were made by members at each meeting, but no written report was submitted to the secretary for the record.

RICHMOND COUNTY AQUARIUM SOCIETY

Herman W. Ordeman, C.E., president; L. M. Passano, Jr., secretary.

Organized August 4, 1933, with Mr. Herbert Butcher as president, this society has since met in the Museum on the first Friday of each month. Mr. Hans L. Stecher has assisted the members by his experience with aquaria, and illustrated lectures have been given at their meetings by Milton Schoenfeld, Richard Buettner, and C. H. Peters. The members have also visited the Newark Aquarium Society by invitation.

STAMP CLUB

The meetings of the Stamp Club, directed by Mrs. P. A. Bonney, were resumed on Monday, September 11, 1933, and were continued through the year. Additional meetings were held on other days for the convenience of those whose school duties prevented attendance on Monday afternoon. The attendance, and the dissemination of information on the geography, history, government, and natural resources of various countries, was thereby increased. The special exhibits were frequently changed and, by stressing the informative features of the work of the Stamp Club, added to its value.

NATURE CLUB

Miriam Campbell Stryker, president; Hans L. Stecher, secretary. The records of this club are printed on a preceding page.

ATTIC CLUB

The attic of the Museum has continued to attract many visitors for serious study of the specimens and books stored there. These include a considerable part of the private collections of Mr. William T. Davis, who is personally in attendance many days and evenings. During the past year Mr. George J. Rau, a student of forest insects in Syracuse University, pursued his studies for the second semester daily in the attic. Other entomological students were Mr. J. Maydell, Mr. Herman Moennich and Mrs. P. A. Bonney. Some additions to the list of Staten Island beetles resulted from the study of Mr. Stecher's discovery on June 3 of many specimens washed up on the shore. Among other visitors to the attic were Messrs. Ernest G. Holt and Robert P. Allen, of the National Association of Audubon Societies; Capt. Thomas I. Miller, Mr. Loring McMillen, Mr. I. C. G. Cooper, each of whom contributed to scientific or historical progress on Staten Island. From more distant parts came Mr. Andrew J. Mutchler, of the American Museum of Natural History; Mr. Arthur Helme, of the Central Museum in Brooklyn; Dr. Andrew N. Caudell, of the U. S. National Museum; Mr. Austin Roberts, of the Transvaal Museum, Pretoria, South Africa; Mr. Fred E. Winters, entomologist, and Mr. Orra E. Monnette, historian, of California; Miss Nellie L. Condon, herpetologist; Mr. Junius Bird, archaeologist, and Messrs. Ernest Ingersoll, H. C. Hockett, and Henry Bird, naturalists.

Among the scientific results of the studies carried on in the attic are descriptions of two new genera, eleven new species, and one new variety of Cicadidae, viz.:

Beameria, new genus.

Chinaria, new genus.

Tibicen chisosensis, new species, from Texas.

Tibicen paralleloides, new species, from Mexico.

Tibicen minor, new species, from Mexico.

Tibicen fusca, new species, from Mexico.

Diceroprocta lucida, new species, from Mexico.

Diceroprocta operculabrunnea, new species, from Mexico.

Beameria wheeleri, new species, from New Mexico.

Daza nayaritensis, new species, from Mexico.

Chinaria mexicana, new species, from Mexico.

Carineta martiniquensis, new species, from Martinique.

Fidicina compostela, new species, from Mexico.

Okanagodes gracilis viridis, new variety, from Arizona.

WOODCRAFT GROUP

The meetings for children were resumed September 12, 1933, and were held at 4 P. M., every Tuesday, Wednesday, Thursday, and Friday, until June 20, 1934, under the direction of Carol Stryker, with the assistance of Mrs. Stryker, Marion Olwig, and Dakin Horn, who was honored by the group at the annual meeting of 1933. Miss Marion Siegel also assisted during a considerable part of the year. Outdoor walks were held on two Saturdays of each month, and the season closed with an overnight camp on the grounds of Mrs. Christopher Steadman, and participation in the annual grand council of all Staten Island tribes.

The meetings for adult members were held on the first and third Wednesday of each month at 8 P. M. At these meetings the following members made addresses, viz.: Carlton Beil, Arline Cornell, Blanche Currier, Eleanor Crandall, Canio Di Cairano, George Hallett, Elwood Logan, Fred C. Olwig, Marion Olwig, Daniel Neuborg, Lilly Rouse, Adeline Regene, Mr. and Mrs. Stryker, and Lester Thomas. Three of these speakers chose American Indian topics; the others spoke on Botany, Geology, or Zoology. A number of excursions were arranged to places of interest, including the Logan farm in Connecticut and the pine barrens of New Jersey; the special features of these excursions were recorded at meetings of the Nature Club.

The Woodcraft Group in Tottenville was supported by the Carnegie Grant until February 1, 1934; subsequent thereto by members of the adult group. It has had an average attendance of 17 young people, one of whom after four years' association with the group has developed a decided aptitude for Nature Study.

STATEN ISLAND ZOOLOGICAL SOCIETY

Dr. James P. Chapin, president; Mr. Harold J. O'Connell, vice-president; Mr. Ellsworth B. Buck, treasurer; Mr. Howard H. Worzel, secretary.

Under the will of the late Julia Hutchins Hardin, the estate owned by her was bequeathed to the City of New York for park, not playground, purposes. The gift became effective upon the death of her husband, Col. E. E. Hardin, in August, 1933; the Park Commissioner, shortly thereafter, at the request of a committee of citizens, consented to the occupation of the buildings by the Institute as a branch of its Museum, and to the formation of a Nature Trail among the varied trees on the property. In pursuance of this project, a section of the Institute, to be known as Staten Island Zoological Society, was organized October 4, 1933, with the following officers and trustees, *viz.*: Dr. James P. Chapin, president; Mr. Harold J. O'Connell, vice-president; Mr. Ellsworth B. Buck, treasurer; Mr. Howard H. Worzel, secretary; Mr. George W. Allison, Mrs. John M. Avent, Dr. A. T. Baeszler, Mr. Philip J. Brown, Mr. Walter E. Franke, Mrs. Russell C. Irish, Mr. Fred Linder, Mr. Edward McCrum, Mrs. H. H. Nutt, Mr. Henry A. Shepherd, Mrs. Christopher Steadman, and Mr. Walter A. Tyler, trustees.

Mr. Carol Stryker, assistant curator of the Public Museum, was permitted to occupy the cottage on the estate which, as well as the larger dwelling, was repaired by Park Commissioner John J. O'Rourke. A map of the property, with the trees and shrubs growing thereon indicated, was supplied by Mr. Lester Thomas.

Subsequent to January 1, 1934, Hon. Robert Moses became Commissioner of Parks. After a delay of several months, during which it became evident that a fire-proof building would be required to house the collections contemplated by the Staten Island Zoological Society, it was announced by the press that on March 9, 1934, Commissioner Moses had authorized a new building to be erected on the property by the Civil Works Administration at a cost of about \$150,000.

The Hardin mansion was demolished by May 2, 1934. The construction of the new building to replace it has since proceeded; Mr. Stryker has continued to reside in the cottage on the premises; and on June 24 an opportunity to view the progress in construction was afforded by an Afternoon Tea with Mrs. Ellsworth B. Buck, Mrs. Harold J. O'Connell, Mrs. Henry H. Nutt, and Mrs. H. A. Shepherd as hostesses.

Meanwhile the collection of animals, under the direction of Mr. Stryker, has increased, and plans for the incorporation of the Society are in progress.

ANNUAL REPORT—BOARD OF TRUSTEES

MAY 19, 1934

The Board of Trustees presents herewith its annual report. With deep regret we record the death on August 10, 1933, of Mary Otis Willcox, a

patron of the Institute and long a member of the Board. The vacancy thus occasioned has been filled by the election of Mr. Harold J. O'Connell, and that caused by the death in March, 1933, of Mr. Bayne by the election of Mr. Medad E. Stone.

We have also to record the death on February 25, 1934, of Elizabeth Gertrude Britton, a distinguished botanist, the donor with her husband, Dr. Nathaniel Lord Britton, in 1915, of the Britton Cottage; which loss, unhappily, cannot be replaced.

We are pleased to report that no changes have been necessary in the Staff of the Museum. The operation of its previously established activities has been continued, and several new ones have been initiated. The Richmond County Aquarium Society became affiliated with the Institute on August 4, 1933, with Mr. Hans L. Stecher as one of its technical advisors, and has held regular monthly meetings.

The Staten Island Zoological Society was organized as a section of the Institute on October 2, 1933, with Dr. James P. Chapin as president; Mr. Harold J. O'Connell, vice-president; Mr. Ellsworth B. Buck, treasurer. Our assistant curator, Mr. Carol Stryker, was authorized to assist this section a part of each day in the development of Barrett Park as a branch museum; such use of that park having been verbally approved by the then Commissioner at the request of citizens. Since January 1, 1934, the present Commissioner of Parks has undertaken the construction in the park of an animal house, about 250 feet in length, in the operation of which the Staten Island Zoological Society will be interested to an extent still to be determined.

The Staten Island Bird Sanctuary became established in November, 1933, by an agreement in writing between the Park Commissioner and the National Association of Audubon Societies, by which about 51 acres in New Springville Park has been set aside for preservation as a natural area. It has been surrounded by a fence costing \$1,000, paid for by Mr. William T. Davis, and has been equipped with bird houses and feeding stations by the Staten Island Bird Club, assisted by the Woodcraft Group.

In August, 1933, eight historic sites were supplied with markers by the State Department of Education. These were installed by the State Department of Public Works with the assistance of Mr. Davis and Mr. Loring McMillen.

During the same month the restoration of the old County Clerks building at Richmond was authorized by the Borough President and the Superintendent of Buildings upon the request of the same gentlemen and Mr. Howard Hill. When this restoration is completed storage facilities for bulky historical relics will be available.

Within the Museum the improvements during the year include the repainting of the interior walls and ceilings, paid for, half by the Woman's Auxilliary, half by Mr. William T. Davis; the painting of the room used by the Woodcraft Group, paid for by that group; the covering of the steam pipes in the auditorium, paid for by Mr. John Rader and Mr. Herman Moennich; the rearrangement of the Marine Life Exhibit and the Insect

Exhibit by Mr. Hans L. Stecher, with assistance from Mr. Carlton Beil; continuous work on the books and minerals by Mr. Joseph F. Burke.

In the operation of the Museum's activities we have continued to enjoy the assistance of many of our members. The Woman's Auxiliary, Mrs. John B. Handley-Greaves, president, has provided interesting morning lectures with talented speakers, a Musicale at the residence of Mr. and Mrs. Ernest Flagg, and a Luncheon under the direction of Mrs. Anton W. Hoffmeyer, at which Mary Jobe Akeley spoke, with lantern slide illustrations, of her adventures in Africa. The Art Committee, Mrs. F. Winthrop White, chairman, has provided loan exhibits in the Art Gallery, in charge of Miss Nash, changed monthly, and featuring especially the work of Staten Island artists. The Horticultural Society, Mr. Fred S. Heal, president, has provided five Flower Shows, each lasting three days, and an illustrated lecture on Rock Gardens and Pools. The Microscopical Society, Mr. George E. Ashby, president; Mr. Joseph F. Burke, secretary, has provided for the third time, an exhibit of microscopic objects, as well as Mr. Robert Hagelstein's remarkable lecture on Mycetozoa. The Staten Island Bird Club, Mr. Howard H. Cleaves, president, has provided twelve outdoor walks, and a lecture on outdoor photography. The Historical Society and Section, through Dr. L. M. A. Haughwout, Mr. Loring McMillen, Mr. Howard Hill, Mr. Burton Kollmer, and Mr. Godfrey Birdsall, are responsible for much intensive research, while Mr. John Rader's ambition in the same direction has yielded an Indian Axe of unexcelled workmanship. Special mention should be made of the activities of the Stamp Club, which, as in past years, has met under the efficient management of Mrs. P. A. Bonney.

Our friends in other museums have also come to our aid, like Mr. C. E. Olsen, through his cousin, Mr. Arnold Haverlee, Mr. W. L. Calver, and especially Mr. Harry Raven, whose appearance with his pet chimpanzee, Meshie, was one of the great events of the year.

The list of our friends is not exhausted for many of those mentioned are the representatives of groups of which they are the chosen leaders, and no mention has yet been made of the Nature Club, the Attic Club, or the Hospitality Committees led Mrs. Witte and Mrs. Rottmann. Others have favored us by gifts of money and material, recounted in Miss Pollard's statistical list of accessions, and are too many for individual note.

This report would, however, be incomplete without recognition of the splendid support of our president, Mr. William T. Davis, who during the year besides giving daily, even nightly, attention to the scientific and historical matters that constantly arise, has contributed largely to the current expenses, the money required for the Bird Sanctuary, and even larger sums to the permanent wealth of the Institute.

Notwithstanding some drawbacks due to the prevailing financial depression, we have thus made substantial progress in several directions.

RECORDS OF ATTENDANCE MAY 1, 1933—APRIL 30, 1934

Daytime attendance in the Museum	25,868
Evening attendance in the Museum	4,263
Total	30,131
Attendance at Museum functions outside the Museum (including Bird Club walks, lectures given at schools, extension service at Tottenville, etc.)	5,000
	35,131

The number of meetings held in the Museum during the year was 565, including those of the following educational, civic, patriotic, historical, and scientific organizations, *viz.*: Esperanto Society, Boy Scouts, United Parents Association, Teachers Association, Veterans of Foreign Wars, American Legion, Leaders Conference, League of Women Voters, Alden Kindred, Huguenot Descendants, Daughters of American Revolution, Conference House Association, Staten Island Architects, Professional Engineers, Garden Club, Conservation Conference, Transit Conference, Reptile Society.

The Museum has received 52 accessions during the fiscal year 1933-34, comprising the following items:

Arts and Antiquities	43
Anthropology and Archeology	45
Botany	1
Geology and Mineralogy	1
Books, lantern slides and photos	177
Miscellaneous	29
Zoology	88
	384

Through Winthrop Hillyer Duncan we regularly receive—The American Book Collector.

Through the Lewis Historical Publishing Co.—Americana.

Through Mr. L. G. Lyon and Wm. H. Mitchill—The National Geographic.

And through Mrs. Thomas I. Miller—The Geographical Review.

LIST OF DONORS

Adams, Mr. & Mrs.	Dix, Mrs. Geo. W.
Ashby, George E.	Dowell, Dr. Philip
Britton, Dr. N. L.	Davis, William T.
Britton, W. R.	De Groff, Mrs. Mary
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 Stone, Mason A.
 Verpillot, Emil A.
 Wanty, Edward
 Wiegmann, Dr. W. H.
 Witte, Mrs. H. A.
 Zentgraf, Robert L.

REPORT OF THE TREASURER

MAY 19, 1934

INCOME

Balance last report	\$ 819.30
Receipts	7,952.43
	\$ 8,771.73

OUTLAY

Paid on account of loan	\$1,075.00
Paid on account of foreclosure of Nause mortgage ...	3,669.05
Paid for painting interior walls	400.00
Paid for services of Mr. Stecher	330.00
(Above expenditures covered by donations of Mr. William T. Davis and Women's Auxiliary contribu- tion of \$200 to cost of painting.)	
Paid for printing, etc.	2,101.35
	7,575.40
Balance, cash in banks	\$ 1,196.33

ASSETS

Cash in banks	\$ 1,196.33
John J. Crooke Fund	2,000.00
D. M. Van Name Fund	100.00
Permanent Fund	3,700.00
Natural Science Trust Fund	3,121.00
Real Estate acquired by foreclosure of Nause mortgage	18,000.00
(At its assessed valuation.)	
	\$28,117.33
Liabilities, \$8,463.50.	
City appropriation for calendar year 1934	\$12,620.00

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Correction.—On page 39, line 2, for "Brunswick Murre," read "Brünnichs Murre." The identification of the bird was made on December 27, 1934, by Dr. Wm. H. Wiegmann.

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EDITED BY
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RICHMOND BOROUGH PUB. & PTG. Co.
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VOLUME VIII

OCTOBER 1934—MAY 1936

EDITED BY THE PUBLICATION COMMITTEE
CHARLES W. LENG, WILLIAM T. DAVIS
JOSEPH F. BURKE

PUBLISHED BY THE
STATEN ISLAND INSTITUTE OF ARTS AND SCIENCES
STATEN ISLAND, N. Y.

1937

RICHMOND BOROUGH PUBLISHING
AND PRINTING COMPANY
Staten Island, N. Y.

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PROCEEDINGS
OF THE
STATEN ISLAND INSTITUTE
OF
ARTS AND SCIENCES

VOL. 8

OCT. 1934-MAY 1936

PARTS 1-2

The Occurrence of the Nudibranch, *Stiliger fuscatus*,
on Staten Island, N. Y.

JOSEPH F. BURKE

The occurrence of the nudibranch (Mollusca), *Stiliger fuscatus* (Gould), was reported briefly in the Museum Bulletin of the Staten Island Institute of Arts and Sciences, Vol. 18, No. 3, of October, 1935. In a small tide-pool on the peat at the southern end of Oakwood Beach, Staten Island, I collected on August 4, 1935 a small quantity of the marine alga *Cladophora* which was left in the original collecting bottle containing sea water; the bottle was corked and after several days a few tiny shrimps were noticed for the first time and on or about August 15 a small nudibranch. It was given some observation and on August 19 closer attention disclosed three nudibranch specimens in all. Several egg-masses were also present by this time.

On August 26 the same pool was visited and a further collection was made of *Cladophora*. This lot yielded four additional nudibranch specimens.

A new locality, not as far south on the beach, was visited on September 7. A gathering of *Cladophora* from several tiny pools yielded five nudibranch specimens.

On September 14 the first locality was visited again, but the *Cladophora* was collected from a different pool. In this gathering six nudibranch specimens were obtained.

The next collecting was done at an entirely new locality, not far south of the foot of Fox Beach Ave., Oakwood Beach, and ten nudibranch specimens were obtained from the *Cladophora* gathered. Two small specimens were measured with a net-micrometer in the eyepiece of a Greenough microscope; they were 2 mm. in length. One of the ten was still smaller, had only two pairs of branchiae, and measured $1\frac{1}{4}$ mm. in length. These measurements were taken shortly after collecting; within a few days the specimens grew considerably. This collecting was done on October 12.

The last collecting of the fall was on October 25, at the same locality as on October 12, and a half-pint jar was filled with *Cladophora*. The thorough searching of this material took several days and in all it yielded forty-four nudibranch specimens. One of these was the smallest found in any of the collections, being only $\frac{3}{4}$ mm. in length and having a single pair of branchiae.

In collecting, the *Cladophora* plant, usually about an inch in length, was gently detached from its substratum and placed in a small bottle containing sea water from the same pool. Having been brought indoors it was transferred with sea water to an enamelled photographic tray for examination. The plant was moved rapidly in the water by means of a glass rod to dislodge any nudibranchs present. The latter were transferred by pipette to a bottle containing a small supply of *Cladophora* that had been cleaned of attached material and specimens. A label was added showing locality, date, and number of specimens. The plant material left in the photographic tray was divided into two lots. The clean *Cladophora* plants were put in a stock bottle with sea water from which they were transferred as needed to the specimen bottle in which the plants gradually break down. The balance of the material from the photographic tray, mostly mixed *Cladophora* and other algae, was kept temporarily in another bottle; both this and the stock bottle were examined for additional specimens, which if found were transferred to the specimen bottle. A few days disclosed whether any had been overlooked in the first examination as the growth of the smaller specimens was rapid. The seasonal increase in numbers collected was probably due in part to increased efficiency in collection, in part to

the development of the method of handling here described, and in part to the increased growth of the *Cladophora* by October.

Egg-masses were laid in each of the six bottles shortly after the respective collecting dates. Organisms parasitic upon these egg-masses developed with them so none matured. The egg-laying was observed a number of times. The eggs were extruded from an opening on the right side of the body immediately in front of the first branchia. It was also observed on a number of occasions that the egg-laying was preceded by a union of two of the nudibranchs which curled together somewhat after the fashion of two interlocking letter "C's". In this union a muscular horn was protruded from the right side of the animal, near the head, and was retracted after the separation of the two.

In order that a microscopical study of this mollusk might be made, specimens were delivered to Robert M. Wotton from the gathering of October 25; eight specimens were given to him on December 14, 1935 and the balance, still living—about twelve in number, on January 4, 1936. The results of his investigation follow this article.

The stock jars of *Cladophora* became exhausted in November so it was not possible to add new plants to keep the specimens in good condition, but some continued to thrive and even as late as February 21, 1936 the following were living in the bottles of the collection dates listed: Of August 26, 1935—1 specimen; of September 7, 1935—4 specimens; of September 14, 1935—1 specimen; of October 12, 1935—4 specimens.

Gould's description of this mollusk is quite a detailed one and his illustrations of the adult satisfactory (A. A. Gould, Report of the Invertebrata of Massachusetts, 2nd Edition, 1870, p. 250, Pl. 16, fig. 219-221, *Calliopaea* (?) *fuscatus*.)

The Morphology of the Nudibranch, *Stiliger fuscatus*, from Staten Island, N. Y.

ROBERT M. WOTTON

Introduction

Stiliger fuscatus (Gould)¹ ranges in length from less than 1 mm. to about 10 mm. The body is roughly conical in shape, tapering from the maxillae, surrounding the mouth, to a pointed caudal extremity. The broad surface of the head is surmounted by two blunt antennae. The ceratae are arranged on either side along the posterior two-thirds of the dorsolateral line to the base of the tail. The eyes are situated midway between the bases of the antennae and the first ceratae. The body is translucent and soft in the unfixed condition.

This translucency allows of a limited investigation of the internal structure, by transmitted light, on living specimens. The internal organs may be divided into five separate systems: Muscular, male and female reproductive, nervous including the eye, and digestive. These organs, where they are not directly attached to the body wall, are held in a mesh composed of muscle cells.

There seems to be no circulatory system as such, the organs being nourished by a surrounding medium of body fluid which circulates freely, and probably accounts for the constant contraction and movement of the animal in an active state to maintain this flow.

Methods

Conventional fixation, imbedding and sectioning were employed. No one fixing reagent gave completely satisfactory results and for this reason specimens prepared by several methods were studied. Champy's fluid; Champy's followed by osmication at 37° C. for 6 days; 10% pyridine-formalin, and warm B-3 were found to give good results. The osmic containing reagents yielded more satisfactory results. Dehydration was followed by clearing in cedar oil. Useful stains were acid fuchsin, hematoxylin and eosin.

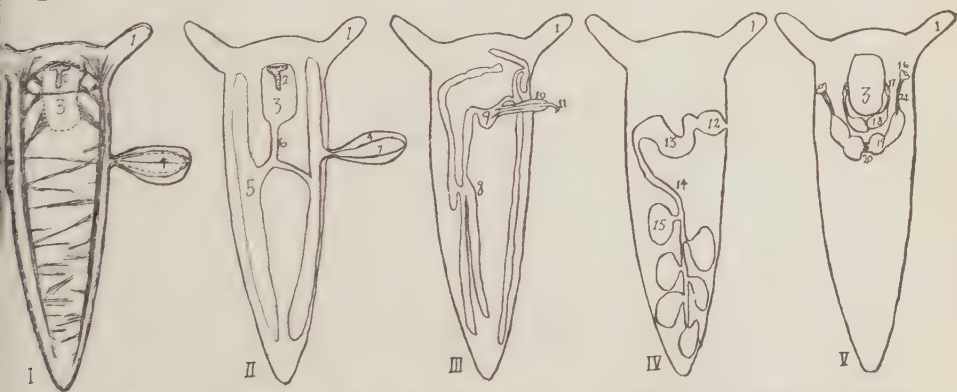
The study of living specimens as a check on fixed material was

¹Augustus A. Gould, edited by W. G. Binney. Report of the Invertebrata of Massachusetts. 2nd Ed. p. 250. Pl. 16, figs. 218-221. 1870.

found to be essential. Unstained total mounts in glychrogel² very closely approach the condition of the living animal and are quite permanent. They are prepared as follows: After relaxation immerse in glacial acetic acid, 1 part; formalin, 2 parts, and water 7 parts, for half an hour, rinse in distilled water for half an hour, and mount in glychrogel. Before attempting any fixation it is advisable to anesthetize the animals with chloretone.

Surface

The body wall is everywhere composed of two layers of cells except in the region of the mouth where it becomes thickened by large groups of gland cells. The external layer consists of squamous cells heavily pigmented. The antennae and an area extending from their bases to the region of the eyes are apparently without pigment. These squamous, dermal cells are roughly polyhedral, ciliated and closely connected, forming a continuous covering over the entire body. They contain a large, clear, oval nucleus without nucleolus. The pigment granules are roughly spherical.



I. Muscular System. II. Digestive System. III. Male Reproductive System. IV. Female Reproductive System. V. Nervous System.

1. Antenna. 2. Mouth. 3. Buccal Mass. 4. Cerata. 5. Gastric Tube. 6. Oesophagus. 7. Gastric Pouch in Cerata. 8. Testes. 9. Vas Deferens. 10. Glands. 11. Duct. 12. Vaginal Chamber. 13. Uterine Chamber. 14. Fallopian Tube. 15. Ovary. 16. Eye. 17. Small Gastric Ganglia. 18. Gastric Ganglia. 19. Optic Ganglia. 20. Cross Commissure. 21. Optic Stalk.

Muscular System

Lying directly beneath and closely adherent to this external

²R. L. Zwemer. A Method for Studying Adrenal and other Lipoids by a Modified Gelatin Embedding and Mounting Technique. Anat. Rec. 57, 41-44. 1933.

layer is a second, composed of muscle cells. These cells are long, flat and branched. They are multinucleate and resemble vertebrate cardiac muscle in structure and function. Besides serving as a contractile element they bind together and support the flat dermal cells and form a lining for the body cavity. This double layered arrangement is consistent throughout the entire body wall of the animal and is prolonged into the ceratae. Branching from the muscular stratum at the base of each cerata there extend to the tip of the gastric pouch several separate strands of muscle fibers whose function seems to be, on contraction, the compression of this pouch.

In addition to this generalized muscle layer there is a system of more or less compact bands of fibers having specialized action. There are two longitudinal groups of fibers originating from the arborescent tips of these fibers among the cells of the body wall in the region of the face. They extend along the edge of the foot to the base of the tail. In the region of the head there are isolated fibers from this muscle which seem to enter the antennae. Two bands pass from side to side between the longitudinal muscles and form a superior and inferior labial group around the T-shaped mouth. There are six groups of muscle fibers originating from the buccal mass and inserting in the longitudinal bands. The anterior pair pass forward while the two posterior pairs pass backward. Their function is the dilation of this buccal mass which functions similarly to a medicine dropper. Extending all the way from the head region to the tail there are cross fibers of single cells which pass from one longitudinal band across to the other and thus help to strengthen the muscle action of the foot. All of these more-or-less defined groups and the generalized layer of cells in the body wall form a complete and continuous system of muscle cells without any definite break or membrane between the individual cells.

The internal organs, as well as the slime cells in the ceratae, seem to be held in place by the pressure of one organ upon the other assisted by a slight reticulum of muscle cells.

Digestive System

The mouth is a T-shaped structure heavily ciliated around its outer margin. As seen from the front, it lies as a depression

between four protuberances which form the face. These bulgings in the face region are composed of glandular cells which aid in digestion. This region seems to be the site of great gland activity. The secretions are probably of two functions, mucoid to aid in securing food and digestive for its assimilation. The mouth is continuous with a pharynx-like structure, the buccal mass, which is capable of rapid expansion and contraction. Its function on expansion is to create a negative pressure so that the animal may draw in a quantity of water and food, and on compression, with simultaneous closure of the mouth, force the food into the body. The cells of the buccal mass are long columnar with small, deeply stained nuclei. They seem to possess a cuticular border and are probably correctly classified as a part of the muscular system. There is a thin-walled, bifurcated oesophagus leading to two longitudinal tubes which run parallel along the upper edges of the body. From these two tubes the inner pouches of the ceratae branch, and are composed of similar cells having small deeply staining nuclei and filled with refractile granules.

Nervous System

The nervous system is composed of several pairs of ganglia. These ganglia are bilaterally arranged in the head region around the posterior end of the buccal mass. The system may be divided into two separate parts, a gastric and an optic. The gastric ganglia lie in close proximity to the posterior curvature of the buccal mass and are connected by a commissure. Laterally from each ganglion a trunk of fibers runs parallel with the muscular walls and terminates in a small ganglion about midway toward the anterior end of the buccal pouch. The fibers are distributed from this ganglion to the muscle cells.

The optic nervous system is much more complicated and to all appearances seems to be more highly developed and specialized than any other organ system in the body. Commencing with the eye, which has a cornea, lens, and retina with heavily pigmented cells, there passes posteriorly the optic stalk composed of fibers which terminate in the optic ganglia. They are situated behind and above the gastric ganglia and are two to three times as large. They are connected by a definite cross commissure of fibers.

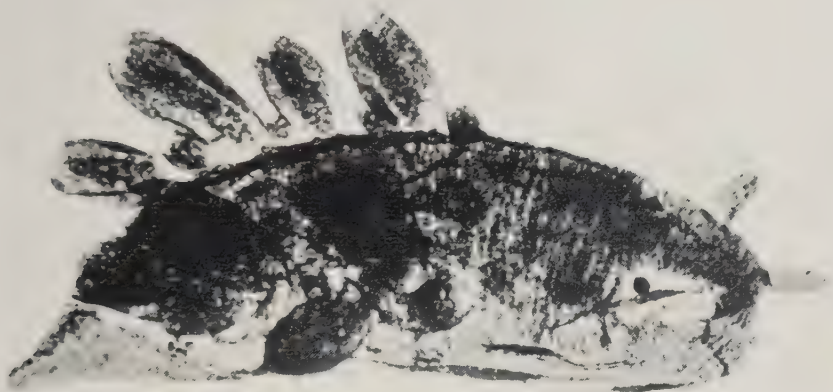
The ganglia are composed of large neurones peripherally placed with clear oval nuclei containing a chromatin net. The fibers are centrally placed in the ganglia, an arrangement resembling the brains of the higher vertebrates.

Reproductive System

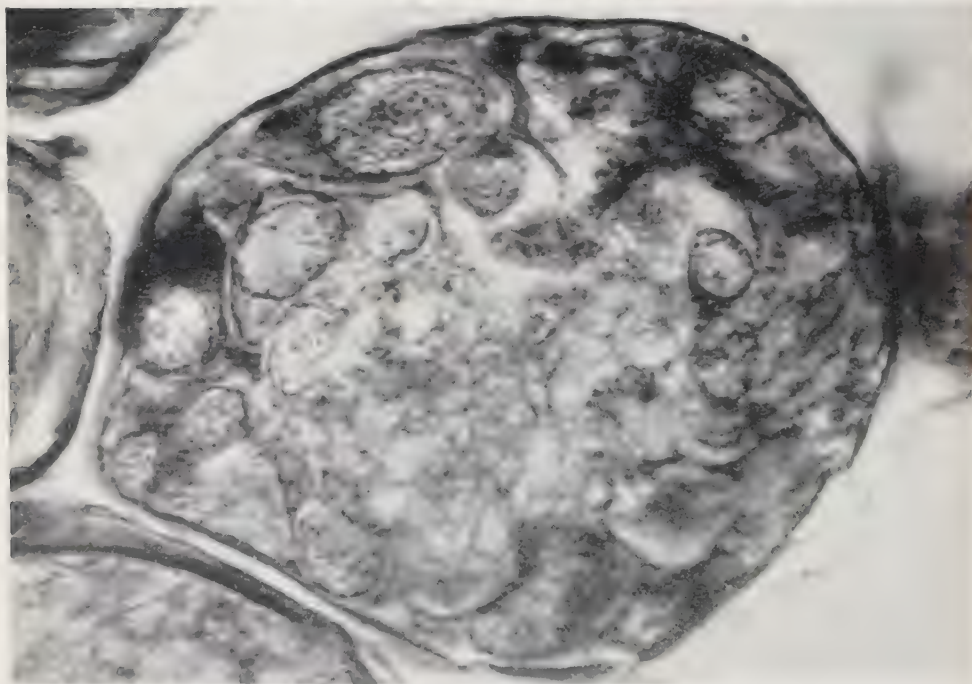
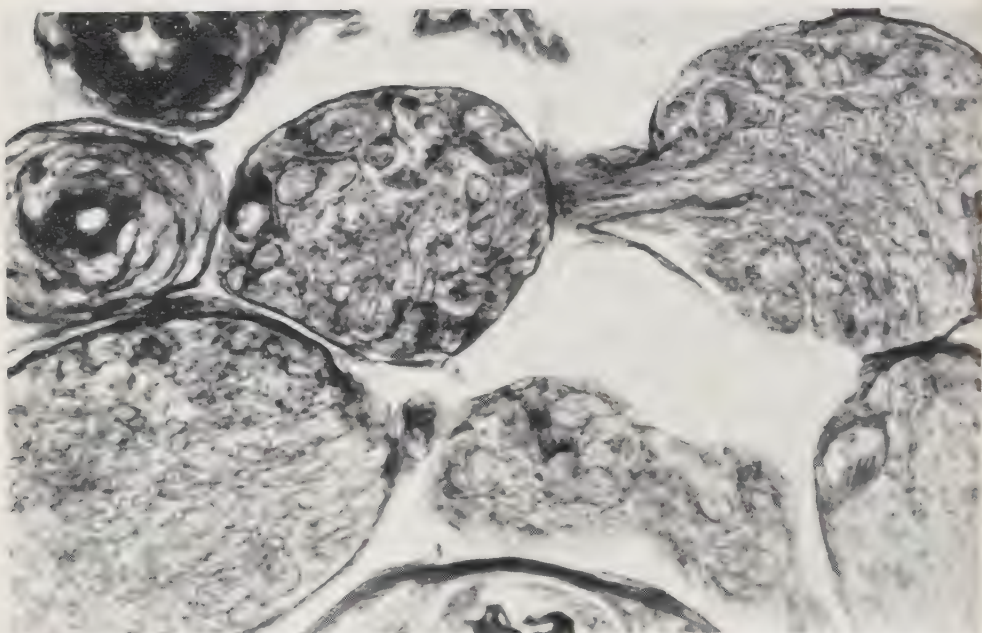
Each animal contains a complete male and female reproductive system. It is hermaphroditic but not self-fertilizing. The male system consists of bilaterally arranged testes which lie in close proximity to the two gastric tubes in the dorsal region. These testes meet in a common vas deferens, in the anterior region, which terminates in a cuticular, hook-shaped duct. This duct is protruded and withdrawn by a thick mass of cells situated at its base. In the contracted condition it is withdrawn in a pocket whose walls are composed of epithelium and are continuous with the epithelium of the body wall.

The female system opens to the surface posterior to the aperture for the male organ and anterior to the first cerata on the right side. There is a vaginal orifice and cavity composed of low cuboidal epithelium with distinct round nuclei in the cells. This in turn is followed by a uterine chamber composed of moderately tall columnar cells whose function is to coat the zygotes as they pass out with a mass of adherent jelly. This jelly binds the egg mass together and assists in sticking it to a surface. A common fallopian tube of thin flat epithelium connects the uterine chamber with the multiple ovaries which fill the greater part of the abdominal cavity. The ovary consists of a thin wall of germinal epithelium which develops into large round ova each with a large circular nucleus containing a definite nucleolus and a chromatin net. The cytoplasm is darkly staining and granular. The spermatozoa in large numbers make their way from the vaginal cavity up the fallopian tube into the ovaries where they fertilize the ripe ova.

The author wishes to express his thanks and appreciation to Prof. A. W. Pollister, Department of Zoölogy, Columbia University, New York, for the use of laboratory facilities and for suggestions so kindly extended.



Stiliger fuscatus (Gould)
Photomicrograph of whole mount.
Photomicrograph showing glans and duct.



Stiliger fuscatus (Gould)

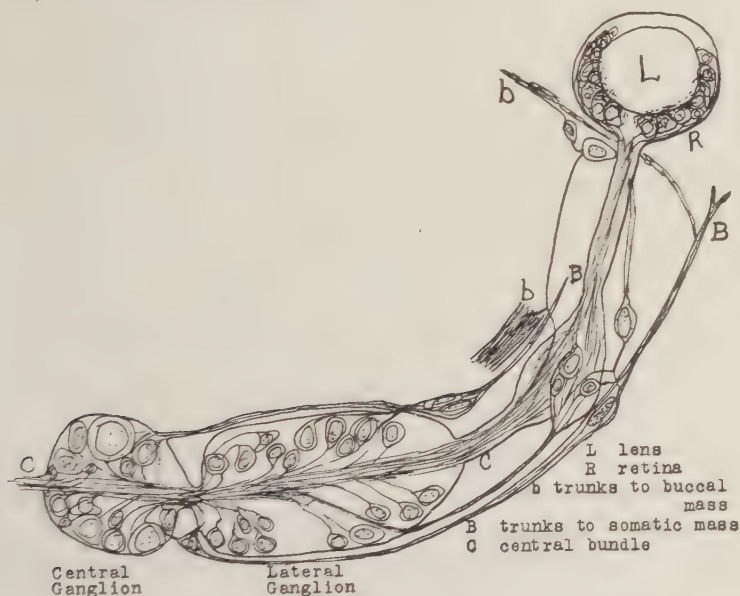
Photomicrograph of lateral and central optic ganglia and gastric ganglion.
560 diameters.

Photomicrograph of central optic ganglion showing giant motor cells.
1200 diameters

The Optic Ganglia, and their Connections, in *Stiliger fuscatus*

ROBERT M. WOTTON

The general morphology and position of the nervous ganglia of *Stiliger fuscatus* have been described on a preceding page. Eliot¹ believes the eyes of nudibranchs to be at most rudimentary; although the complexity of the ganglia, and their connections, associated with these eyes would tend to indicate a highly developed function of sight in the optic organs.



Schematic Diagram Of The Ganglia Associated with the Eye.

They are characteristic of the mollusk type; and the almost spherical lens with its short focal length must render these animals extremely myopic. They seem to be able to distinguish objects two or less millimeters in advance of their bodies.

The lens lies a little toward the upper anterior portion of the orbit surrounded by a layer of pear-shaped retina cells, whose axones pass from the bases of these cells and follow the inner contour of the orbital membrane to the optic stalk. This membrane is composed of squamous connective tissue-like cells and serves to bound the orbit. Posteriorly it is continued as a sheath along the optic stalk.

¹Sir Charles Eliot, A Monograph of the British Nudibranchiate Mollusca (Alder and Hancock), Part VIII (Supplement). 1910. The Ray Society.

Before entering the large lateral ganglion the fibers from the

pond close to Lake Erie at Bay View, Lackawanna, August 1, 1934. The Medusae collected at Bay View, Lackawanna, are also referred to in *Science*, November 2, 1934, by Imogene C. Robertson, and "Fresh-Water Medusae in Iowa," are recorded in the same publication, February 21, 1936, by W. W. Aitken, based on specimens collected in 1935 near Des Moines.

In *Science*, May 8, 1936 Harley J. Van Cleave records Fresh-Water Jellyfish found in two small artificial pools in Illinois, where they are supposed to have been introduced with aquatic plants. They are more often found in such pools than in large bodies of water like Brady's Pond where also the rarely seen hydra-like stage may be difficult of discovery.

In a letter from Mr. C. W. Coates of the New York Aquarium, it is stated: "These little Jellyfish are very mysterious. They bob up once in a great while in our tanks, and disappear for no discernible reason. Last year we got a few from the Middle-West, which lived for a while but died as usual from no known cause."

NOTE: Since the above was written Medusae have again been observed in Brady's Pond, making the fourth consecutive year of their known occurrence in that large body of water. On September 5, 1936, Mr. Warren Condit collected about fifty specimens, which he brought to the Public Museum.

Philip Dowell—Ph.B., M.A., Ph.D.

Dr. Philip Dowell died at Deland, Florida, June 25, 1936. He was born at Attica, Indiana, on December 3, 1864; educated at Augustana, where he received his Ph.D. in 1900, with supplementary courses at Yale and Columbia. His career as a teacher began in 1889 as instructor in botany at Augustana, followed by thirteen years as professor of science in various colleges, and culminated in 1902 by entering the high school service of New York City, in which he remained until his retirement in 1928.

Dr. Dowell's attainments in botany earned employment for many summers between 1902 and 1918 as assistant curator in the U. S. National Museum; he was president of the Fern Society in 1911, associate editor of the Torrey Botanical Club 1907 to 1910; editor 1911-1912, and the author of many papers on ferns and violets.

His connection with the Institute began in 1903, soon after coming to Staten Island. He served it as corresponding secretary and as a trustee for several years, 1905-1908, but especially as chairman of the publication committee, in which capacity his service extended from 1906 to 1928. His contributions to our Proceedings are listed below. In 1908 his eminence as a botanist was recognized by his appointment as Honorary Curator of Botany; and his interest in our botanical collections was shown by his gifts in 1926 and later of more than 1000 herbarium specimens.

Bibliography (Staten Island Items)

Proceedings Natural Science Association of Staten Island.
Volume IX, p. 2—Two ferns new to Staten Island, Nov. 14, 1903.

p. 8—Two more ferns new to Staten Island, Jan. 6, 1904.

p. 41—Additions to the Flora of Staten Island, Mar. 18, 1905.

Proceedings Staten Island Association of Arts and Sciences.
Volume I, p. 37—Additions to the Local Flora, Apr. 21, 1906.

p. 61—Distribution of Ferns on Staten Island, May 19, 1906.

retina enter a double ganglion and are separated. Some pass through the upper division and then laterally around the posterior edge of the ganglion (lateral) and enter there. These fibers traverse internally a group of sensory neurones. The main tract from the orbit passes by way of the lower division to enter the lateral ganglion directly, as the central bundle. No doubt quite a few of the fibers from the retina terminate in the ganglia on their own side but the majority end in the opposite central ganglion. Some continue into the opposite lateral ganglion.

There are connections to the somatic musculature of the head region and with the fiber pathways from the gastric ganglion to the buccal mass.

The ganglia are encapsulated by a membrane which is continuous with the sheaths of the nerve trunks. The cells are radially arranged at the periphery and it is possible to segregate definite groups. The fiber tracts run through the central position and individual fibers turn off and enter cell groups or nuclei. Likewise axones from these nuclei turn centrally and enter the main bundle.

There are four types of cells found in the nervous system. The great majority seem to be unipolar neurones with a pear-shaped perikaryon containing a large, granular, oval nucleus. The cells of the retina resemble these except for the heavy pigmentation of black granules in their cytoplasm. The unipolar cells may be divided into two groups; one, composed of giant cells, probably motor in function, found exclusively in the central ganglia, and the other, neurones of a smaller size, possibly sensory, distributed mainly in the lateral and to some extent in the central ganglia. The fourth group consists of the occasional bipolar cells, having highly refractile granules in the cytoplasm, found in the ganglia and secondary ganglia along the nerve trunks. These cells probably function as relay neurones.

There has been no discussion of the nerve trunks passing to the somatic musculature and to the internal organs.

From the complex structure of these ganglia and the intricacy of their connections it would seem that the oculo-nervous system is the most highly developed organ-group in the body of this nudibranch, and may well be considered to function as a rudimentary brain.

Fresh Water Jellyfish from Staten Island

WILLIAM T. DAVIS

In 1933 a great many fresh water Medusae were observed in Brady's Pond by members of the Grimes family, who reside at 11½ Windemere Road, Grasmere, Staten Island, on the border of the pond. No Jellyfish were collected in 1933. On July 17, 1934, Mr. Willard M. Grimes, Jr., brought the writer four living Medusae. The species was evidently *Craspedacusta sowerbyi* Lancaster. The largest of the little animals was about $\frac{1}{4}$ of an inch in diameter, and in moving about the tentacles were sometimes pointed upward, or downward as illustrated in Ward and Whipple's Fresh-Water Biology, page 322.

On July 19th the four Medusae given to me by Mr. Grimes were still alive. I kept them in a quart jar placed in cool water and in the shade. On this day I visited Brady's Pond and supposed that I was going to find many *Craspedacusta*, because I saw one as soon as I reached the pond. It was in the shade of an over-hanging tree, but it soon died in the jar where I placed it. The jar should have been put in a shaded place while I further explored the pond, and not carried about in a bag. I did not find another Medusa though I made a considerable search, nor did I find any on July 20, when I again visited the pond.

By July 21 one of the Jellyfish had died, and by July 24 another, so the two remaining specimens were put in formalin. They were alive but unable to swim about.

Later in the season Mr. Willard M. Grimes, Jr., presented the writer with seven additional specimens preserved in formalin, and collected in Brady's Pond in late July or the first part of August. Several of these specimens are much larger than those first found.

The Jellyfish were again present in Brady's Pond, August 20 and 26, 1935, as recorded at the meetings of the Staten Island Nature Club, September 28, 1935, by Hans L. Stecher, and October 26, 1935, by John Koestner.

In *Hobbies*, the magazine of the Buffalo Museum of Science, October, 1934, there is an illustrated account of "Fresh water Jellyfish Near Buffalo," discovered by Mr. Dale Wipert in a

II, p. 170—Notes on Plants, Oct. 10, 1908.

p. 173—Discussion of hybrid ferns, Dec. 12, 1908.

III, p. 112—Prince Bay vs. Princes Bay, 1912.

p. 156—Additions to Flora of Staten Island, Apr.
12, 1912.

p. 163—Notes on some Staten Island Ferns, Apr.
12, 1912.

Bulletin Torrey Botanical Club.

Volume XXXVII, p. 163—Violets of Staten Island, 1910.

Natural History Records from the Meetings of the Staten Island Nature Club¹

WILLIAM T. DAVIS

The meeting of June 25, 1934, was held in the Public Museum.

Mr. Charles W. Leng remarked on the rapid spread of the Japanese beetle on the Island, and said that they were likely to be a serious pest during the summer.

Mr. George B. Wilmott reported hearing a tree frog, *Hyla versicolor*, on the night of June 22 near the Arthur Kill Road. This species is becoming rare on the Island.

Mr. I. C. G. Cooper reported three localities for the Rattlesnake Fern, *Eubotrychium virginianum*, near Willow Brook, and gave a list of 19 additional species of plants to the 53 previously recorded by him as growing at the same locality.

Mr. Wm. T. Davis exhibited four additional egg-masses supposed to be those of *Tenodera angustipennis*, that he had found on high-tide bushes on June 20 at the same locality at Oakwood as the 5 reported at the meeting of May 25, 1934. These egg-masses also contained dead eggs. Three of the egg-masses of *angustipennis* sent by Mr. Frank M. Jones were placed in a clump of Azalea bushes at 146 Stuyvesant Place, November 3, 1932, and others received from Mr. Jones were placed in the same bushes and in the Bird Sanctuary, December 15, 1933. Some egg-masses received from Mr. Carl Ilg collected in Southern New Jersey have also been put out in the above mentioned localities. However, it does not appear probable that these found this year at Oakwood where there were evidently a number of female mantids in 1933, could have spread to that locality from the egg-masses put out in the first part of that year, and the colony at Oakwood no doubt owed its origin to some other source.

Reference was made to the collection of pine knots exhibited at the April meeting, and a pine knot from Oakwood Beach partly eaten by *Teredo* or ship-worms was shown. The knot had evidently been rolled about in the sea for some time, because the usually hidden borings of the *Teredo* were exposed on all sides. When the knot was cut open, it still had a strong resin odor, and

¹These records have been compiled largely from the minutes of the club, Hans L. Stecher, secretary.

the central portion was quite sound. "As tough as a Pine Knot", was well illustrated.

A male Redstart warbler had been seen by Mr. Davis and Mr. Ernest Shoemaker along the path in the Bird Sanctuary on June 11, and again on June 21 by Mr. Davis and Mr. George B. Wilmott. The bird was singing on both occasions and was evidently nesting in the Sanctuary. There is a reference to a Redstart nesting on the Island in the Proceedings, Natural Science Association of Staten Island, June 11, 1887, and Dr. Chapin and Mr. Stryker have also found it on the Island in the nesting season.

A photograph was shown of the stump of a recently felled American elm in the Bird Sanctuary that had given forth a copious supply of sap, which had hardened and turned a bright orange color. The elm is the most common tree in the Sanctuary, and on May 11 a number of skunk cabbage leaves had each a clump of sprouting elm seeds in the constricted area where the sides of the leaf contract near its junction with the stem. By June 21 most of these seedling elms had died by reason of their unfavorable environment.

Specimens were also shown of the poplar, *Populus heterophylla*, collected in the small swamp corner of Flint and Oak Avenues, Oakwood. This tree at one time had a considerable distribution on the Island, but has nearly died out in recent years.

A grove of small locust trees has existed for some time on the made land near the Tompkinsville docks. They appear to be *Robinia bella-rosea*, sometimes considered a hybrid between the common locust and the clammy locust. The trees have rose-pink flowers, as in *viscosa*, but with thorns on the branches, like *pseudacacia*.

The meeting of September 22, 1934, was held in the Public Museum.

Mr. Charles W. Leng commented on a new Geology, entitled "Geologic History at a Glance," compiled by L. W. Richards and G. L. Richards, Jr., Stanford University Press, Stanford University, California. The text is arranged in columns and there are two folding plates with numerous illustrations, also a page of selected references.

Mr. Carlton Beil: Early in the summer a single, small milkweed plant was observed growing beside the Museum. By July it was about 18 inches tall, at which time small holes were noticed in several of the leaves. Investigation disclosed the presence of two small Monarch butterfly caterpillars. Day by day they increased in size, while the plant lost leaf after leaf. Finally it was reduced to a bare green spike for even the buds had been gnawed away. The caterpillars left the plant, but were found and brought inside and fed for some time until they hung themselves up and transformed into beautiful chrysalids, green in color with gold dots, and a black stem. As the butterfly within matured, the colors of the wings and body became visible through the chrysalis and for several hours before they emerged one could see the perfect outlines and color of the wings. One of the specimens turned out a female and the other a male. The milkweed made a brave recovery and sprouted new branches and leaves, but did not recover sufficiently to bloom.

During the week of July 16, 1934, after two or three hot sunny days at the end of a rainy spell, a large mushroom was brought to the Museum by Nicholas Massaro of 99 Maple Parkway, Mariners Harbor, S. I. It was found growing on an oak tree stump in the woods nearby, and when cut weighed about 35 pounds. The odor was sweet and pleasant and the flesh sweet, though somewhat tough. However, by evening it had acquired a sharp and burning after taste.

During the summer it was noticed that the privet hedge in front of the Museum had given rise to several interesting bud sprouts perhaps due to the damage suffered during the severe weather of the past winter. These sprouts sprang from the main trunks, as well as from the base of the plant, and exhibited striking variations from the normal opposite arrangement of the leaves; some having the leaves alternate, and other in whorls of three.

Mr. Howard Cleaves reported the presence of an immature jumping mouse (*Zapus hudsonius*) in the cellar of his house at Pleasant Plains, Staten Island, September 18, 1934. The cellar windows being left open in the warm months, various creatures made the mistake of entering and were unable to escape. A meadow mouse (*Microtus pennsylvanicus*), a short-tailed shrew,

frogs, toads and many beetles and crickets were found in the cellar. Pears spread on the cellar floor for ripening had been eaten into but this was presumed to have been done by large crickets or beetles until a small mouse emerged from beneath a stack of shelves. In the dim light toward evening the rodent was at first mistaken for a house mouse, but presently it made several short, rapid arching jumps, when it was seen that the mode of travel was not at all that of the house mouse. The tail was fully five inches in length; the color above was yellowish tan, not gray, while the throat and breast were white. While Mr. Cleaves stood still the mouse came close to his feet and tested with its teeth the rubber sole of a shoe. The animal was seen to eat pears, also a small black beetle which was caught and killed within a few inches of the observer's foot. The mouse took hold of a large spider, but quickly thought better of it and jumped rapidly away. The spider likewise took rapid departure. After watching the mouse for approximately one half hour Mr. Cleaves caught it with his hands and released it at night a short distance from his home.

Mr. Cleaves mentioned that a pair of Cooper's hawks had again bred in the woodland between McGuire Avenue and Bloomingdale Road, Pleasant Plains, being perhaps the same birds which successfully brought off three young ones in the summer of 1933. The two nesting sites were several hundred yards apart. The breeding of a pair of Baltimore orioles at Pleasant Plains in 1934 was recorded by Mr. Cleaves, with the comment that this species is growing exceedingly scarce as a breeding bird on Staten Island.

Mr. I. C. G. Cooper and Mr. Hans L. Stecher visited Lakehurst, N. J., on July 23, 1934. They observed a number of plants, among them the White-fringed orchid, which at one time was plentiful near the present railroad station at Arlington, Staten Island.

Mr. Wm. T. Davis read a number of newspaper items of local interest concerning July, 1934, the hottest July of record; the possible return of the blight-stricken American chestnut, and the three recently established Bird Sanctuaries in Central Park, Manhattan.

Mr. Davis showed a number of herbarium specimens of our native oaks. On Staten Island the scrub chestnut oak, *Quercus prinoides* is, as far as known, confined to the Watchogue region. The most interesting group of bushes was on the Big Hummock and were destroyed during the grading operations in 1929 by the Gulf Refining Company. About a dozen *prinoides* bushes bearing larger acorns than did those on the Big Hummock, are still to be found on the southerly side of Lambert's Lane, where it crosses Hughes Avenue. A very large post oak, *Q. stellata*, stands in private grounds on the northerly side of Flagg Place on the unglaciated area of Dongan Hills. The leaves are unusually large with the basal lobes but slightly developed, giving them a remarkable appearance.

At South Amboy, close to the end of the bridge over the Raritan from Perth Amboy, there is a remarkable lot of hybrid oaks at a locality heretofore unreported. There are willow oaks, and black jack oaks, with many different forms of hybrids between the two, known as *Quercus rudkini* Britton. There are also some hybrids between the willow oak and possibly the black oak, *Quercus velutina*. As these hybrids have no doubt crossed among themselves, for we know that their acorns grow readily, the many combinations are of much interest. A herbarium specimen of *Q. rudkini* collected October 2, 1881, at Cliffwood near Keyport, New Jersey, was shown by Mr. Davis, who accompanied Mr. Rudkin and Dr. Britton at the time the type material was secured. The new locality for hybrid oaks at South Amboy has the same crosses as those to be found at Cliffwood about five miles to the southeast, but the trees are not as large. Mr. Davis stated that he was indebted to Mr. Cleaves for taking him by automobile to South Amboy on August 23, when the hybrid oak locality was discovered, and to Dr. James P. Chapin for a visit to Island Beach, New Jersey, where a large bush of what is possibly a hybrid between *Q. nana* and *Q. marylandica* was found. The leaves are very thick and glossy, and have the base more rounded than is usual in the Bear or Scrub oak. This cross is known as *Quercus brittoni* Davis, and has been found on Staten Island, the type locality, Long Island, and in New Jersey. Photographs of several of the oaks were shown.

The meeting of October 27, 1934, was held in the Public Museum.

Mr. John Rader presented a photostat made from a photograph loaned by Clarence Busteed depicting an old landmark, Hall's gun factory, which later became Standerling's Mill, Willowbrook, Staten Island, 1890.

Dr. Frank A. Strauss mentioned the survival of a small number of Fringed Gentians which had escaped the general destruction of the plants last summer by the Park Department in La Tourette Park.

Mr. Carol Stryker showed a twig of winter-berry from the Bird Sanctuary at New Springville, collected October 24, and stated that the berries were the largest that he had seen.

Mr. Carlton Beil demonstrated the fluorescence of certain minerals under the argon light when suitably arranged in a box. A very beautiful effect was obtained with an ordinary green drinking glass purchased at one of the Woolworth stores.

Mr. George Rau exhibited beetles of the tribe Lepturini, and his new variety of *Anoplodera vittata*, to be known as var. *saratogensis*. He had collected specimens at Saratoga Springs in 1933 and 1934. [See Bull. Brooklyn Entomological Society, April, 1935, p. 63] Type and Allotype in collection Staten Is'd Inst. Arts and Sciences.

Mr. Hans L. Stecher exhibited a baby butterfly fish, *Chaetodon ocellatus* Bloch, also known as *C. bimaculatus* Bloch, a marine species that commonly occurs among the coral reefs of the tropics. The fish had been caught by Joel Seuberth of 234 Bement Avenue, Staten Island, on October 8, 1934, near Sprague Avenue, Tottenville, in a pool at low tide. The specimen measures about an inch in length and is in the Museum collection.

Mr. Wm. T. Davis showed a female *Tenodera angustipennis*, and the oblong egg-mass collected in southern New Jersey by Mr. Carl Ilg from which it and a number of other individuals had probably emerged. He now had both species of large Asiatic Mantis in his garden at 146 Stuyvesant Place. A male *angustipennis* had been placed with the female, and although she had been fed a meal-worm, she almost immediately ate the male, leaving only the tegmina and wings and some hard parts of the legs.

Several males and a worker of the wasp, *Vespa maculifrons* (*V. communis*) were shown, that with others of their kind, had almost completely removed the interior of a rather large apple lying on the ground, leaving but the neatly cleaned outer skin.

Recent newspaper articles have recorded many Black Widow spiders, and they have been found during the past summer in considerable numbers in the Middle West. This species, *Latrodectus mactans* Fabricius, considered, not without good evidence, to be the leading poisonous spider of the United States, at least in numbers, is also found quite often on our Island. Mr. Davis showed a small specimen collected near Rossville, October 4, 1934; on September 17, 1934, Mr. Hans L. Stecher discovered one close to the rear foundation wall of the Museum. A male and a very large female of this species collected by Mr. Robert McCulloch, were recorded from the Island at the November, 1933, meeting of the Nature Club.

The meeting of November 24, 1934, was held in the Public Museum.

Mr. Charles W. Leng showed a report on Staten Island Iron Ore Mines dated 1864. The mine described was near Richmond Turnpike and Jewett Avenue. The thickness of the vein was said to be at least 20 ft., and to consist of large beds of iron ochres, from which beautiful pigments could be made, and filled with round and oval shaped grains of highly magnetic iron ore, the size of pease or less. The Atlas of 1874 shows Richmond Iron Mining Co., then in operation, with several buildings, including Mine Captain's residence, Ore washing house, etc., and on the opposite side of Jewett Avenue Walter Fielding's Paint Factory. Until recently the excavations caused by the mining operations were visible. The report was given to the Museum by Mr. E. L. Blossom of 81 Belair Road.

Mr. John Rader exhibited the nest of a Whitefaced wasp found at Willow Brook and Capt. T. I. Miller reported blue birds still present about his home at Annadale. Mr. Carol Stryker stated that some persimmons from Mrs. Boesch's garden at Richmond had been given to two opossums at Barrett Park and were devoured with avidity.

Mr. Howard Cleaves displayed several mammal teeth and fragments of antlers recently excavated on Indian sites at Prince Bay, Tottenville, and Rossville, by Mr. Cecil T. Stuart of Tottenville, mail carrier on the staff of the Prince Bay substation of the post office. The teeth had been submitted by Mr. Cleaves to Dr. Glover M. Allen of the Museum of Comparative Zoology, Cambridge, Massachusetts, who, under date of October 19th, 1934, had written in part as follows regarding their identity: "The canine tooth is the upper canine of a Black Bear, but the others are not so easy. They are obviously the lower incisors of large ruminants, and I have pencilled numbers on them 1 to 4. No. 1 is a fair match for one of the middle incisors of a bison or a cow, with swollen inner base and single exterior furrow. Nos. 2 and 3 are not distinguishable from teeth of an elk or Wapiti, and in lack of evidence to the contrary I should call them that."

From the above, Mr. Cleaves suggested, it appeared that either black bears and wapiti had once occurred in Staten Island or that the Indians coming to the Island from inland had brought with them the teeth of these mammals. The fact that such evidences of Indian occupation of Staten Island are still to be found, in the face of modern development involving many sad changes in the face of the Island, is a stimulating thought according to Mr. Cleaves.

Mr. Wm. T. Davis called attention to several newspaper items of local interest, and stated that November 5, 1934, with a temperature of 70 degrees was the warmest day of that date recorded by the local weather bureau, and November 20, 1934, with a temperature of 74.3 degrees was also the warmest day of that date of record.

About the end of June, 1934, Mr. L. J. Stroud, 3 Cliff Street, Rosebank, captured in a net off Fort Wadsworth, Staten Island, an Orange File Fish (*Alutera schoepfii*). It was 14 inches in length and had been dried by Mr. Davis. It still retained some of its bright colors.

A box of *Catocala* moths, collected in the summer of 1934 was shown. A specimen of the very beautiful *Catocala concumbens* came from the Staten Island Bird Sanctuary, and among a number collected in Bronx Park, there was a notably large *Catocala*

subnata with a wing expanse of three and five-eighths inches.

The meeting of December 22, 1934, was held in the Public Museum.

Mr. Charles W. Leng presented the following memorandum. In "Bird Lore," xxxvi No. 4, 1934, p. 238, Fred Issig of the Bronx, records a Snowy Owl, seen at Oakwood Heights, April 19, 1934, and called attention to the numerous records of the owl in our Proceedings, vol. 4, p. 118 (meeting of Nov. 27, 1926) and page 124.

Mr. Wm. T. Davis read several newspaper items regarding the Elm Tree Blight; of the great number of trees affected, said to number 656 on Staten Island, and of the \$527,000 granted the Agricultural Department to attempt the "Complete eradication of the Dutch elm disease in and around New York City," according to the *New York Sun* of November 5, and the *Times* of December 9, 1934. He stated that the disease probably would not be eradicated in spite of these efforts and large expenditures. In England the blight has been under observation for seven years, and some of the many afflicted trees have apparently recovered (*Science*, November 23, 1934).

Attention was called to the new Bird Sanctuary noticed in several of the daily papers and in *Science* for December 21, 1934. It is there stated that nine acres of natural woodland on the Bronx River, early next spring are to be enclosed by a fence, within which birds may find shelter unmolested, and wild flowers and trees of New York will be planted and protected. The Sanctuary is to be made a memorial to Mrs. Nathaniel Lord Britton, an ardent worker for the preservation of wild life, a member of the Staten Island Institute of Arts and Science, and for several years a resident of the Island.

A Pitch Pine root 16 feet long and about half an inch in diameter at its thickest portion, was exhibited. It had been found December 6 near the Arthur Kill Road west of Rossville. The shifting sand had left the long root, which was partly covered with bark, exposed, and it had finally died and become detached from the tree.

A Skunk Cabbage leaf of large size was also exhibited. The

blade was 18 inches in length and the entire leaf 28 inches. It came from the Bird Sanctuary at New Springville, where there were a number of such leaves.

Mr. Davis stated that recently he had counted 25 to 30 Herring gulls at one time on the Manhattan piers of the Staten Island ferry, or on those near by. These gulls, as previously reported to the Nature Club, appear to be tamer with the passing years and the cessation of persecution.

On November 29th, during the week of warm weather, a Peeper frog was heard calling near the lighthouse on Richmond Hill; some honey bees had left their hive and were flying feebly, and two *Prenolepis* ants were walking about. A number of cultivated plants, Chrysanthemums, Violets and Pansies were in flower, as well as way-side weeds, such as common Chick-weed, Pepper-grass and Dandelions.

Mr. Carol Stryker reported that two Blue birds had been seen on December 7 at the feeding station in the Bird Sanctuary, New Springville Park, and that the top of the so-called "Barn Owl" tree had been blown away during a heavy storm. A bird house was later placed on the broken tree by some of the Woodcrafters. Persimmon seeds from the trees in the garden of Mrs. Boesch had been planted in the Sanctuary.

Mr. L. A. Ellison exhibited a number of concretions from Lake Champlain; Mr. P. L. Sperr some photographs of the Mayflower Country Club grounds, Staten Island, and Capt. Thomas I. Miller reported a full chorus of Spring Peepers at Annadale, December 1, 1934.

The meeting of January 26, 1935, was held in the Public Museum.

Mr. I. C. G. Cooper reported a pair of Cardinals recently seen in Benedict's woods, Jewett Avenue.

Mr. Carol Stryker read several newspaper items of which the following from the *Advance* of January 12, 1935, is a sample: "Dried grass and weeds in the salt marshes along the South Shore will be burned next week by the Department of Health as a part of the mosquito-extermination work. The first fire will be set at South Beach about 8 o'clock Monday morning and the

T.E.R.A. squad will work south toward Tottenville."

On January 18 it is stated that the burning had commenced and that: "The theory of the plan is to burn the overhanging brush which hides the breeding spots of mosquitos."

Mr. Stryker stated that burning over the salt meadows does not directly destroy mosquito larvae or eggs at this time of the year as most of them are under water or even in the mud at the bottom, and that the fires would undoubtedly ruin, if they did not immediately wipe out many rare and valuable plants and wild flowers, as well as the cover of small game, and many birds.

It was the opinion of those present that more damage than good would result from the fires and it was hoped that the Department of Health would discontinue them.

Mr. Wm. T. Davis showed a Peppergrass plant, *Lepidium virginicum* L, that with many of its kind was in flower December 4, 1934, when it was collected in a sheltered place in West New Brighton. He pointed out that the varying conditions of the weather as recorded in the N. Y. *Times* of January 20, 1935, for the year just past, were also recorded in part by the Peppergrass. The plant showed many empty seed pods occupying the lower part of its branches from which the ripened seeds had fallen. Above these there were fully grown pods from some of which the orange colored seeds were just emerging. Then there was a sudden halt, followed by a growth of about an inch in most cases, bearing very small and immature seed pods, and lastly the numerous small white flowers.

The printed weather record stated that the first killing frost was on November 3, 1934. This frost evidently seriously affected the Peppergrass, shown by the sudden halt in its growth, but it did not kill the plant.

During the several warm weeks that followed, when there were numerous blossoms on Chrysanthemums and other hardy plants, and when peeper frogs were heard singing, as recorded at the the November meeting of the Nature Club, the Peppergrass resumed its growth and no doubt perfected more seeds, and produced on each branch many more flowers and small seed-pods which it could not perfect. Some years all or nearly all of December has been mild and the Peppergrass plants might have done

even better by themselves than they did in 1934. The Meteorological Observatory in Central Park recorded that in 1933 there were 185 days between killing frosts, while in 1934 there were 219; the average is 208 days.

Mr. Davis read an item from the N. Y. *Times* of January 20, 1935, relative to the round-up in both New York and in Rhode Island of makers of cigarettes called "reefers," containing the narcotic drug known as hashish. This drug is found in the common hemp, *Cannabis sativa*. He showed herbarium specimens of the plant collected near the docks at Tompkinsville, September 10, 1928. In Webster's dictionary hashish is described as: "A narcotic preparation made from hemp in the Orient. It may consist of the tops, leaves, etc., of the plant or some extract of the same, or of a resinous exudation. It has long been used in the East for its intoxicating effect when chewed or smoked." Ganja is a powerful form of hashish consisting of the dried tops of pistillate hemp plants. It is smoked like tobacco.

In *Science*, January 18, 1935, pp. 68-70, there is an article on: "The Dutch Elm Disease, Graphium Ulmi, in Connecticut," in which the authors, G. P. Clinton and F. A. McCormick of the Connecticut Agricultural Experiment Station, state that: "there were still left standing at the end of 1934 more infected trees than those known to have been infected at the end of 1933, despite the many trees removed in both 1933 and 1934," and they conclude that as a result of their studies and experience with this and other tree diseases: "that the time is now past when either this fungus or its insect carriers can be eradicated in the United States."

The *Abstract of the Proceedings of the Linnaean Society of New York*, for 1931 and 1932, contains a number of references to noteworthy birds seen on Staten Island, chiefly on the beach at Oakwood, as well as the observations of Mr. Harold V. Depuy of Prince Bay, on "A Bird-Catching Insect," recording the capture of a Ruby-throated humming bird by a large Mantis that had stationed itself on a butterfly-bush (*Buddleia*) where insects were plentiful.

Mr. Roy Latham of Orient, Long Island, in a letter dated December 18, 1934, gave the following records: "We have two

Great-horned owls in Orient this week and I saw one of them catching mice where a farmer was husking corn in the field. The owl would perch on the top of the stacks of stalks, and when a stack was upset for husking out the ears of corn, the owl would swoop down and catch the mice as they ran out from underneath the stack. Both house mice and meadow mice were taken by the owl.

"We had a flock of a hundred or more Pipits here this month, the largest flock I ever saw in winter. There was one Lapland Longspur with them, the first time I ever saw a Longspur with a flock of Pipits. They usually are seen with Horned Larks or Snow Buntings, or alone.

"Among the odd fish taken here this season, I collected a specimen of the Cow-nosed Ray, the first I have seen here."

The meeting of February 23, 1935, was held in the Public Museum.

Mr. Charles C. Stoddard showed a piece of western yellow pine that had been discarded for flooring, as it was split up into narrow slabs caused by windshake, each slab representing an annual growth consisting of a dark and light colored layer.

Mr. Paul Kuhn stated that he had seen 15 ducks at the feeding station near the creek in the Bird Sanctuary, but could not identify the species on account of the lateness of the hour. On February 22, there was a flock of quite tame Juncos in the Moravian Cemetery, where Mr. Kuhn and his companion had also seen several Long-eared owls in a clump of hemlocks.

Mr. Carlton Beil stated that he had also observed the owls in the cemetery, and exhibited a number of pellets found by him, one of which was actually dropped in his presence.

Miss Marion Olwig described the gradual melting of the snow on the branches of trees and shrubs near Great Kills. In some cases the snow had gradually dropped underneath the branches but still held on and formed lace-like patterns.

Mr. Walter Kleinfelder stated that he had recently seen a muskrat swimming up stream in the brook near St. Andrew's Church at Richmond.

Mr. Hans L. Stecher exhibited a female Black Widow Spider,

Latrodectus mactans, that he had kept alive since September 17, 1934, and reported upon its growth. It grew steadily until a certain period during the winter when food became scarce. Although flies were caught regularly and fed to the spider, it appeared undernourished and inactive. Closer examination of the food material disclosed the fact that the flies were nothing but skins with empty stomachs and in such condition did not furnish enough nourishment. He then tried mealworms. The result was that within less than an hour the spider swelled up and the body regained its glossy condition. From then on it thrived on the new food.

Mr. Percy L. Sperr commented upon the great number of gulls in the harbor, and also reported on the character of the floating ice seen in the bay at various times during this cold winter.

Mr. Wm. T. Davis read a letter from Dr. James P. Chapin dated Valparaiso, Chile, February 11, 1935, giving some account of the Islands in the Pacific thus far visited by the yacht Zaca of the Templeton Crocker Expedition, American Museum of Natural History. Land birds were reported as not plentiful. Dr. Chapin expects to return to Staten Island about the middle of April.

Photographs taken nearly 15 years ago of the large female snapping turtle, captured in the Clove Valley in July, 1920, by R. E. Bell, were shown. The turtle has occupied a large aquarium in the Museum all these years. It early received the name of "Hatchet Face".

Mr. Davis referred to the family of White-footed or Deer mice that occupy a cage in the attic of the Museum, where they were born, and where they have been cared for by Mr. Stecher for the past three years. He read the following from the *Times* of January 29 as quite descriptive of the little animals: "And here I may say, by the way, that a mouse is such a nice, pretty little animal that I cannot conceive why folks should hold it in such horror. It is very much the same thing as a squirrel or a guinea pig which we keep in our rooms and pet and play with; nay it is cleverer far than they. What a delicate little snout it has, what sweet little ears, what wee little pets of feet! And then, its comically big mustache, and its quick black eyes like sparkling

diamonds! And when it plays, when it squeaks, when it stands up to beat the air on its hind legs, it is as clever and as comely as any other animal."

Three Luna moths reared from caterpillars received from Mr. Charles Rummel in 1933, were shown. Two of the moths emerged in August, 1933, and one male, May 18, 1934. All of the cocoons were kept in-doors, and none produced the form *rubromarginata* as Mr. Rummel hoped they would. Mr. Davis stated that in order to secure form *rubromarginata* it appeared necessary that the cocoons be kept out of doors, and that the moths, in the vicinity of New York, emerge before the first of June. If they emerge much later in the season the red margin to the wings is not present.

A remarkably thin valve, two inches in length, of the clam, *Macra solidissima*, collected on Oakwood Beach, February 16, 1935, by Miss Edna Peterson, was shown. It was considerably thinner than is usual in clams of this species of the same size.

Mr. Carol Stryker stated that a tooth found by a boy on one of the Indian sites at Tottenville, had been identified by one of the curators at the American Museum of Natural History as a canine tooth from a wolf. He exhibited several black widow spiders from Staten Island.

On the occasion of a walk with a group of Woodcrafters from Tottenville to Oakwood Beach, during the month, Mrs. Stryker had observed a flock of Snow Buntings feeding on grass seeds.

Mr. Howard Cleaves reported on his trip as far west as Memphis, Tenn., on a lecture tour.

Mr. Lester Thomas had collected 155 items from various newspapers of which he gave an interesting account under the caption of: "Nature in the Daily News." Forty-three issues had been examined. The items included 7 editorials on natural history subjects; 13 letters to editors; 9 feature articles; 14 Rod and Gun articles; 1 book review, and 1 movie review.

The meeting of March 23, 1935, was held in the Public Museum.

Mr. Charles W. Leng reported the following plants in blossom in his garden: Snowdrops since March 2; Crocus, Scilla and

Grape Hyacinth, since March 9; also Chickweed in blossom and seed-pods of Wisteria open on March 16. In a garden in New Brighton, at the corner of Henderson and Clinton Avenues, the Cornelian Cherry, *Cornus mas*, was in full bloom on March 22.

Mr. I. C. G. Cooper showed a few edible African land snails that are imported and may be purchased on the East side of New York City.

Captain Thomas I. Miller was 80 years old, March 21, 1935, when several members of the Nature Club, including Mr. John Rader, called at his home.

Mr. L. A. Ellison observed the occurrence of a sun-dog on February 6, about 20 minutes before sunset. Another one was noticed on March 19, shortly after sunrise, and was visible for nearly a half hour. This latter was also observed by Mr. Leng and Mr. Rader. The fact that these phenomena are generally accompanied by cold weather was pointed out by Mr. Davis.

Miss Marion Olwig had seen a Herring Gull swimming on a small pond near Silver Lake Reservoir. It was an amusing sight to see so large a bird on such a small body of water. Miss Olwig showed two Indian arrowheads which she had found near Benedict's Creek, Greenridge, March 23.

Six Killdeer were seen by Mrs. Stryker at New Dorp, March 16, 1935, and another was observed flying over Captain Miller's home at Annadale, on March 21st.

Mr. Wm. T. Davis referred to several items of interest, one of them reporting a seal seen near the shore, foot of Joline Avenue, Tottenville, on the morning of January 25, 1935. Other items from the *New York Times* of March 8 and March 19 recorded as many as three seals observed off Forty-ninth Street, Bayonne, New Jersey. Numerous seals were seen in New York Bay, in February, 1884, as recorded in "Staten Island and Its People", page 43.

Mr. Davis exhibited a Coltsfoot flower found near Tompkinsville railroad station, February 25, 1935, and stated that the date indicated about the usual weather conditions for the season. In 1934—a backward spring—the Coltsfoot flowers were first found at the same locality March 21. In the forward spring of 1932,

the Coltsfoot commenced to blossom early in January, and had gone to seed by March 2nd.

On March 17 of this year, the first blossoms were noticed on the white maples, and peeper frogs were singing in a swamp near Richmond, visited in company of Mr. Stoddard.

Mr. Davis further stated that in the New York State list of Insects published in 1928, 126 species of Orthoptera were recorded as occurring within the state. On June 22, 1932, a female of the beautiful red-winged grasshopper *Pardalophora phoenicoptera*, Burmeister, common to some parts of Southern New Jersey, was collected in the reservation at Fort Wadsworth, Staten Island. This is the first recorded specimen of New York State. This with the colony of Narrow-Winged Mantis, *Tenodera angustipennis*, found near the shore at Oakwood in 1934, as recorded in the Pro. Staten Island Inst. of Arts and Sciences, vol. 7, p. 140, 1934, adds two species to the list. He further stated that on the high sandy ground back of Rossville, that there was an inland colony of the Maritime grasshopper, *Trimerotropis maritima* Harris, a species more often found on the up-beaches of the seashore. A majority of the individuals in this colony have the tibiae of the hind legs of a pinkish color, instead of the usual pale yellow, and the transverse dark band on the hind wings is quite broad. Specimens of each of the three species were exhibited.

Mr. L. A. Ellison gave a well prepared general talk on fossils, illustrated by numerous specimens. Views on the screen supplemented the actual specimens.

The meeting of April 27, 1935, was held in the Public Museum.

Mr. Charles W. Leng referred to a recent catalogue, issued by the Argosy Book Stores, advertising a partial set of the publications of the Staten Island Institute for \$30.00.

Miss Emily O. Long exhibited a number of mosses which were placed on paper trays; each exhibit named: 1. Broom moss (*Dicranella*) Clove Lake Park; 2. *Ceratodon*, Clove Lake Park; 3. *Bryum capillare*, Clove Lake Park; 4. *Bryum caespitium*, on stone wall, Victory Boulevard, Staten Island; 5. Cord moss (*Funaria*) on charred stump and showing three different stages

of spore cases, from New Springville Bird Sanctuary, 6. Apple moss (*Bartramia*), Dingman's Ferry, Pa. Miss Long also mentioned the *Ficaria ficaria*, or Lesser Celandine, growing plentifully in places about New Springville.

Mr. Percy Sperr expressed his pleasure at seeing Dutchman's Breeches in bloom at West 253 St., New York City. He also told of a goat indulging in chicken feathers by chewing a mouthful of such that it had procured from the tail of a hen.

Mr. Carol Stryker reported that an English sparrow, which apparently had come to drink at a bird-bath in Barrett Park, had been attacked by a Purple Grackle. When he found them the sparrow was lying on his back, while the grackle was hammering him vigorously with his beak. Other grackles, sparrows and a robin were witnessing the struggle. He also had found a Gray Squirrel at work on a paper bag lying on the ground. When approached the squirrel went up a tulip tree holding the bag in its mouth. After some more vigorous attempts with the bag, it suddenly lost its balance and fell to the ground. Thereafter it smelled of the bag a few times but would not touch it.

Mr. J. E. Logan exhibited a number of cockroaches, identified by Mr. Davis as immature *Panchlora cubensis*, a tropical species. In the course of the evening one of them shed its brown coat and appeared in a new green one, as had been predicted would happen.

Mr. Howard Cleaves reported the presence of a pair of Blue-winged Teal for two days (April 17th and 18th, 1935) on a small, shallow pond at Mt. Loretto, Pleasant Plains, almost exactly a year following his observation of a pair of American Widgeon on the same body of water. Mr. Cleaves also reported that a pair of Cooper's hawks is again present in a woodland near Bloomingdale Road, he having seen the birds on the 26th of April. On the morning of the 27th of April, Mr. Cleaves had seen at Pleasant Plains a Brown thrasher, a House Wren and a Chipping sparrow, the first of the season, and on the afternoon of the same day a Turkey vulture, also at Pleasant Plains. This bird is infrequently seen on Staten Island.

Mr. Cleaves further reported that on April 22 he had seen two adult and three young Killdeer Plover at Mt. Loretto, the young being already about one half as large as their parents. It was

thought the birds were not less than ten days old, which would date the eggs in the last half of March—an early nesting date for Staten Island. Fowler's toads were noted as singing from Lee's pond, Bloomingdale Road, Pleasant Plains by Mr. Cleaves, while on his way to the meeting of the Nature Club.

Mr. Wm. T. Davis read a letter from Mr. Roy Latham of Orient, Long Island, which contained the following: "During the winter we had a few interesting birds around Orient. A Great Blue Heron wintered with us again. We had Barrow's Goldeneye, Carolina Wren, Snowy Owls, King Eiders. Crows became very tame during the cold spell, and came to feed with the Song Sparrows on the porch of my bungalow. I had five crows one morning feeding on bread crusts on the porch while I watched them through the window only six feet away. These were perfectly wild crows which live and feed on the farm and salt-meadows along the bays. One morning while the snow was on the ground, I found a flock of approximately 300 Tree Sparrows collected on a small bare spot in a pasture where there had been a turkey pen last summer. This is the largest number of this Sparrow I have ever seen. One morning a Northern Shrike flew around the corner of the house and grabbed one of the Song Sparrows, which was feeding on the porch, and dashed off, the sparrow swinging back and forth as they went, for the Shrike was carrying the sparrow by the tip of one wing."

A note from Mr. J. E. Spingarn recorded the removal several years ago of two or three plants of *Clematis ochroleuca* from Staten Island to Troutbeck, Amenia, Dutchess County, N. Y. The plants were reported to be thriving.

Mr. Davis showed a nodule of yellow jasper found in March near Oakwood from which he had broken a large chip. When this was heated it turned to a deep red, in strong contrast to the original yellow color. The tips of some of their jasper arrow points were evidently thus colored red by the Staten Island Indians.

On July 16, 1934, forty-two shells of the snail *Polygyra* (*Helix*) *thyroides*, all opened in a uniform manner were found in a few square feet among skunk cabbages in the woods east of South Avenue, and near Lambert's Lane, Staten Island. Each

shell had about one-half of its dorsal, central part removed, so that the soft parts of the animal could be easily and completely extracted. It was probably the work of a squirrel, because they often bring seeds, pine cones, etc., to a central point, before commencing operations. At the meeting of the Nature Club held February 27, 1932, many Ribbed Mussels (*Modiolus plicatulus*) collected on the banks of Neck Creek near Travis Avenue, were exhibited. Each shell had been opened, presumably by a crow, by the breaking of an oblong piece out of one valve only. The mussels had become exposed by reason of the widening of the ditches and many crow-tracks were in the soft earth about the recently opened shells. Woodpeckers learn to open *Cecropia* cocoons in a practical manner by drilling a hole centrally on the side of the cocoon. This can only be done when the cocoon is placed on a sufficiently large branch to present an adequate unbending resistance to the strokes of the woodpecker. A fine example of a *Cecropia* cocoon thus opened, collected April 26, 1935, near Arden Avenue and Arthur Kill Road, was exhibited (See "Woodpeckers and *Cecropia* Cocoons," *Proceedings of the Natural Science Association of Staten Island*, Dec., 1892, and meeting of Nature Club, April 14, 1920).

Mr. Davis also exhibited a portion of an oak stump broken open by ditch-makers near Arlington, Staten Island, in which a colony of the red and black Carpenter Ant, *Campanotus herculeanus* sub-sp. *pennsylvanicus* var. *ferrugineus* Fab. had lived for a number of years and made extensive excavations. As they had often worked across the grain, the annual rings of the tree were well exhibited, on the thin, horizontal floors between the different stories of the nest. Some of the workers lingering about their partly destroyed nest, were very large with heads in proportion, indicating an old nest. The black Carpenter Ants are much more common on the Island than are those of the red variety.

The meeting of Friday, May 24, 1935, was held at the home of Mr. Herbert F. Stone on "Stone Mountain," 92 Pearl St., Stapleton.

Mr. Carol Stryker reported a pair of Blue-gray Gnat-catchers and coerulian warbler near Flagg's Pond, Staten Island, May

13, 1935. Although high in the tree tops the latter's certain shade of blue stood out clearly and could not be mistaken.

Miss Emily O. Long reported numerous visits of Song Sparrows, Catbirds and Maryland Yellowthroats to her bird-bath, 44 Chester Place.

Miss Marion Olwig with other Woodcrafters, had visited Mrs. White's home in New Jersey, May 4 and 5. Of special interest were the cranberry bogs and the cultivated blueberries, also a Pine Barren wildflower garden with an artificial pond, successfully established by Mrs. White.

Mrs. Carol Stryker supplemented Miss Olwig's report, and referred to the typical rock formation of these areas, consisting of a hard-pan of pebbles, sand and iron cemented together. In the laying out of cranberry bogs, care is taken not to break this hard-pan.

Mrs. John H. Boesch offered seedlings of Persimmon trees, growing plentifully in her garden, 421 Edinboro Road, Staten Island, to any one interested in obtaining them. Although growing on comparatively dry ground the larger trees usually bear many persimmons each year. Persimmons are prized by gray squirrels, and by many birds that help in the distribution of the fruit.

A box containing several hundred dead honey bees was shown by Mr. Wm. T. Davis. The bees had been collected in front of a hive in Stevenson's Honey Farm, 210 Center Street, Richmond, Staten Island, and their death was the result of Mr. Stevenson having uncovered the hive, permitting bees from neighboring hives to steal the honey, and ending in a fight among the bees. In the *Herald Tribune*, May 17, 1935, James J. Montague in "To a Bee," observes:

"Moreover, I'm told you're a pirate
And rifle strange hives every day,
'Till their owners grow savage and irate
And hasten to shoo you away."

Mr. Davis stated that an interesting gathering of birds had been observed in the late afternoon before coming to the meeting in the garden of Mrs. John H. Boesch, 421 Edinboro Road, Richmond, near the Light-House. In an area of about fifty square

feet there came in less than an hour ten species of birds, also a young rabbit and two gray squirrels. The Brown Thrushes demonstrated their ability to hop, run and walk, if for only a few steps, as do the robins. There was a Cardinal, resident House Wren, and Catbirds, Blue-jays and Chewinks, that evidently had nearby nests. One of the most interesting birds present was a White-crowned sparrow that devoted much time to demolishing the seed cluster of a dandelion.

Mr. Hans L. Stecher reported the death of the Black Widow spider, which he had collected on September 17, 1934. The death occurred during a cold spell that came when the spider was in the process of shedding.

The meeting of Saturday, June 22, 1935, was held at 421 Edinboro Road, Richmond.

Mr. Charles Pearson had observed a Virginia Rail and its young black chick, near Tottenville on June 2. The young went into the water but was caught for closer inspection and later released. Two nests of the Rough-winged swallow were discovered in a bank near the Billopp House, Tottenville. They were about a foot-deep with an entrance of about four inches in diameter.

Mr. Howard Cleaves exhibited an excellent photograph of a rabbit taken at Pleasant Plains by flashlight photography while eating its bait, an apple.

Mrs. Mary A. Seery reported visiting a family at Bell Harbor, New Jersey. In their garden stands a cherry tree 89 years old that still furnishes a good crop of fruit for pies, etc. This year, however, instead of going into pies, the entire crop was harvested by a flock of starlings, about a hundred or more in number. By afternoon of the day of her visit only one cherry could be discovered in the tree.

Mrs. John H. Boesch reported observations of a pleasing friendship between a chipmunk and a bunny, a most interesting affair, a Chinese kissing party, that is rubbing noses. The rabbit in due time became tame, coming up to the feeding station on the platform.

Mr. Wm. T. Davis showed several pinned moths of the Tent-

caterpillar, and pointed out that many were flying to the lights while the meeting was in progress. Also that the violet-purple flowers of the so-called False Indigo (*Amorpha fruticosa*), a shrub introduced a number of years ago to the lowland along Richmond Brook, were at present at their best and deserved examination. He recorded a Bitter-nut hickory, 5 feet, 4 inches in circumference, standing near the corner of Arden Avenue and Van Brunt Street, not far from the railroad. Herbarium sheets of the five species of Staten Island hickories were shown, and attention called to the number of small-fruited hickory trees (*Hicoria microcarpa*) near Egbertville and Richmond. Mr. Davis stated that a rather large colony of Red-seeded Dandelion consisting of about 20 plants, was at present in seed and blossom, opposite Woodland Cemetery on the Turnpike, Clove Valley. Some of the seeds were shown together with the gray colored seeds of the common dandelion.

Mr. Carlton Beil gave a general account of our sea-shore life illustrated by numerous specimens.

The meeting of September 28, 1935 was held in the Public Museum.

Mr. Charles W. Leng reported Japanese beetles in full force this summer, most of those examined being females. They had increased so enormously on the Island in comparison with previous years that he feared by next year they may become a real menace to Staten Island gardens and farms. He stated that hollyhocks and roses suffered greatly from the attacks of the beetles. Dr. Wm. H. Wiegmann added that sassafras, grape vines and Hibiscus, were also favored by the beetles.

Mr. Charles C. Stoddard exhibited a piece of wood found by him in Oakwood beach, that bore a remarkable resemblance to the horn of a moose.

Mr. Richard Fisco reported a trip to Clove Valley, July 27, with Mr. Stecher, when a twin oak was discovered that had several cracks in its lower trunk from which exuded a considerable amount of sap. This had become fermented and was very attractive to numerous insects. He and Mr. Stecher had counted about the trunk of the tree 15 Red Admirals (*Vanessa atalanta*);

4 Swallow-tails (*Papilio troilus*); 4 *Grapta interrogationis*, and 3 *Vanessa antiopa* butterflies.. In addition there were 9 wasps, of which 5 were Cicada killers (*Sphecius speciosus*) and 4 *Vespa crabro*. These last were engaged in both drinking the sap and in the capture of butterflies. A number of stray butterfly wings were found about the base of the tree.

Mr. Walter Kleinfelder exhibited several impressions of fossil leaves that he had recently collected in Cretaceous clay at Glen Cove, Long Island.

Mr. Hans L. Stecher stated that the California King Snake (*Ophibolus getulus*) in the collection of the Museum had on the night of July 31, at 11:30 P.M., produced two eggs, and by 8:30 the next morning 6 eggs were counted. Seven of these were clustered together; one was separate. The weight of the latter proved to be 15 grams, 5 grains. All together had a weight of 95 grams, giving an average for each of about 12 grams. The length of each egg as well as its short diameter, as follows: No. 1, 38 mm-18 mm; No. 2, 36 mm-19½ mm; No. 3, 36 mm-19 mm; No. 4, 37 mm-19mm; No. 5, 39 mm-19mm; No. 6, 42 mm-20 mm at one end and 17 at the other; No. 7, 40 mm-19mm; No. 8, 42 mm-19½ mm.

Dr. Wm. H. Wiegmann presented some very interesting bird records for the Island. Among such he named especially a young Black Skimmer seen on August 31, 1935, and a Buff-breasted Sandpiper seen September 17, 1935. One of these Sandpipers was seen at Oakwood September 29, 1932, as recorded in these Proceedings for October 22, 1932.

Mr. Wm. T. Davis referred to the article: "Three Crayfish in Greater New York," Proceedings, Staten Island Institute of Arts and Sciences, vol. VII, 1934, and showed one of the two living Crayfish mentioned in the paper. It was collected in the Bronx River, July 30, 1934. The other specimen died September 19, 1935, while shedding, due to the fact that it could not extricate its legs from the old shell, owing to the smooth bottom of the pan where the crayfish were kept in shallow water.

Mr. Davis stated that he and Dr. James P. Chapin had visited a colony of Cicada killing Digger Wasps (*Sphecius speciosus*), near Old Bridge, New Jersey, and had dug up 46 Cicadas, buried

possibly by two wasps having their tunnels near together. There were a number of additional burrows close by. In one of the cells the two Cicadas had become mouldy, and in another cell one of the two Cicadas contained many fly larvae. No wasp larva was observed in either of these cells. Some of the other cells contained each a nearly full grown larva of the Cicada killer, as well as one or two undevoured Cicadas. In other cells there were three Cicadas with the larva. The *Sphecus* larva is usually found attached to the under side of the Cicada at the coxal cavity, caused by the removal of one of the median legs. The egg is more often laid at the base of the leg on the right side of the Cicada than on the left. The Cicadas found, and there were probably others not discovered, were chiefly *Tibicen chloromera*, of which there were 23 females and 18 males. There were also 2 female and 3 male *Tibicen lyricen*. While we were digging, a wasp arrived with a male *Tibicen canicularis*, which was appropriated when she deposited it at the entrance to her burrow.

In Dr. Howard's *Insect Book* there are recorded some observations on this species of Digger Wasp. One of the illustrations shows the wasp carrying the Cicada with the legs down, whereas it is actually carried with the legs up, the wasp being enabled thereby to get a firmer hold. Also as the wasp may be seen searching along the branches of the trees for the Cicadas, and actually secures often more females than males, it is obvious that she is not guided by the songs of the Cicadas. It has been our observation that two or three Cicadas are placed in each cell as food for the larva. Dr. Howard states that: "Riley thought that one Cicada is required as food to develop a male and two to develop a female," which is larger.

A very large mass of the fresh-water Polyzoa, *Pectinatella magnifica*, about two feet in length, was observed in Brady's Pond, Grasmere, August 28, 1935, at which time the statoblasts had commenced to separate from the mother colony.

Mr. Frederick Adams showed several specimens of ferns among them the "Curly-grass," *Schizaea pusilla* collected at Chatsworth, New Jersey.

Mr. Hans L. Stecher exhibited several Freshwater Jellyfish collected for him by Miss Barbara J. Emps at Brady's Pond,

Grasmere, Staten Island, on August 26, 1935. This is the third recorded appearance of *Craspedacusta sowerbyi* Lancaster. The previous year they were reported by Mr. Wm. T. Davis at the meeting of the Nature Club, September 22, 1934, and also reported seen in the summer of 1933, when none were collected.

Dr. James P. Chapin showed an Indian arrow head found recently in the sand at Crooke's Island. It appeared to be considerably worn by the action of the sea.

Mr. Howard Cleaves exhibited a silken sand tube, one of several found near Lahaway Plantation, New Jersey. The largest tube was 9 inches, of which 3 inches were underground. They had been identified by Mr. Davis as constructed by the caterpillar of *Prionapterix nebulifera*. He also referred to the camping trip of the Cleaves family and Mr. Davis to Cape May County, New Jersey, August 14-19, 1935. The very beautiful Cicada, *Tibicen latifasciata* Davis, was sought, but only a single male was captured. As on former visits to Cape May County, none of these Cicadas were heard singing into the evening, as does *Tibicen winnemanna* of Maryland and vicinity.

The meeting of Saturday, October 26, 1935, was held in the Public Museum.

Mr. Charles W. Leng gave a pleasing account of his visit to St. Augustine, Florida, in September.

A fly of the genus *Sarcophaga* that Mr. Hans L. Stecher caught near the snake cages in the Museum, gave birth to maggots while held between the fingers. The fly was placed in alcohol where it quickly died, the larvae however, survived much longer. He had timed the death of the latter and found that only after six minutes were there signs of distress, and it took eight minutes forty-five seconds before they were all apparently dead.

Mr. Wm. T. Davis showed five large leaves of the common Horse-radish, *Roripa armoracia* L., found growing on waste ground near Bay Street, Stapleton. The variations were remarkable, ranging from a large regularly formed blade, the margins of which were simply crenate, to extreme pinnatifid examples divided almost to the mid-rib, as in the fronds of the Sensitive fern. More usual forms of the plant, bearing flowers, collected

near New Dorp, June 8, 1907, were also shown.

A photograph of a large seed-head, a foot in length of the Smooth Sumach *Rhus glabra* L., growing near the Arthur Kill Road at Valley Forge, September 17, 1935, was shown. Several other heads on neighboring bushes were also large.

At one time clumps of the Switch Grass, *Panicum virgatum* L., were conspicuous on the sandy areas along the Arthur Kill, but for some unknown reason these clumps are dying out. Photographs were shown of dead or partly dead clumps observed in the sand dunes near Green Ridge and Benedict's Creek.

The American Cranberry still grows wild in several places on the Island, the largest bog being near the village of Richmond. On October 7, 1935, near one of the two little ponds in the woods to the west of Bloomingdale Road a small patch of cranberries was discovered. The berries were large and numerous, and many of them were gathered and eaten by members of the Bird Club on their walk of October 12, 1935.

The Sugar Maple, *Acer saccharum* Marsh, is a native of Staten Island woods to the west of the Moravian Cemetery, but the Black Sugar Maple, *Acer nigrum* Michx., with thicker leaves, does not occur here. In the Interstate Park at Bear Mountain, both species grow side by side. Specimens collected July 15, 1935, were shown.

Mr. Davis further called attention to the beautiful colors assumed from mid-summer on by many of the leaves of the species of Goosefoot, which are often of a reddish-purple, or purple tinged with yellow. Some of the leaves of the evening Primrose turn to bright colors early in the season, as also do those of *Geranium carolinum* L., occurring at Ft. Wadsworth and more plentifully on the western end of the Island.

Mr. John Koestner exhibited Freshwater Jellyfish collected at Brady's Pond, Grasmere, on August 20, 1935. He stated that the jellyfish appeared on cloudy days over certain areas, while on sunny days they seem to be absent.

Mr. Peter Borgemeister reported a Greater Yellow Legs at one of the Clove Valley lakes, October 26.

Mr. and Mrs. George B. Wilmott and Mr. Peter Crowe stated that from personal observations our now common Praying Man-

tis preyed to some extent on the Japanese Beetle. Mr. Crowe also commented on the squeaking sound produced by the common large beetle *Passalus cornutus*, when held between the fingers.

Mr. Heywood Loery reported that a Black Snake in his possession laid 26 eggs on August 17, 1935, and Mr. Richard Fisco stated that a Water Snake taken at Woolsey Pond, Dongan Hills, Staten Island, in July, gave birth to 15 young, October 20, 1935. The average length of the young was $7 \frac{3}{4}$ inches.

Mr. Charles Pearson reported seeing several Cormorants near the beach at Tottenville.

The meeting of November 23, 1935, was held in the Public Museum.

Mr. I. C. G. Cooper stated that the Slippery Elm apparently held its leaves later into the Fall than does the American Elm.

Mr. Peter Crowe exhibited some Tortoise-shell beetles found under a board in an empty lot in New Brighton, where with others of the same species, they had retired for the winter.

Mr. Heywood Loery reported that his small Milk Snake, about 7 inches in length, had eaten an embryo mouse.

A Catbird's nest, to which White-footed Mice had added a super-structure, was found by Robert Rouse on November 16, at Travis. The nest was exhibited by Mr. Carlton Beil, who stated that a similar nest had been found at New Springville by Raymond Lawrence.

Mr. Richard Fisco exhibited a nest of *Vespa maculifrons*, found on Grymes Hill, by John Fisher. The nest was located several inches under ground and consisted of 7 layers of comb; some of which contained larger cells than others. Mounted specimens of male, female and worker wasps were shown.

Mr. Howard Cleaves spoke of his experiences while on a lecture tour through western New York State. In the woods of Cattaraugus County still and motion pictures of Black Bears were taken. Among the bruins was a 500 pound animal. In taking the pictures and a series of close-ups a large iron drum was used as a blind. Bait of honey and bacon rind had been placed nearby. Very satisfactory results were obtained after many patient hours of waiting.

Mr. Wm. T. Davis showed a photograph of a Crow's nest in a small locust tree growing near the shore of Arthur Kill where it is entered by Benedict's Creek at Green Ridge. The nest was about 12 feet from the ground. Previous mention has been made in the Proceedings of the Nature Club of the crow's nest 7 feet 8 inches from the ground in an oak between South Avenue and the Turnpike, found in 1929, and the two in small willows on the Island of Meadow, at the entrance to Fresh Kill, found May 21, 1933. The most remarkable crow's nests, by reason of being built near the ground, were the two visited in company with Mr. Frederick M. Schott, May 5, 1927, and reported at the meeting of the Nature Club held June 4, 1927. They were in a tangle of cat brier on Hicks Beach, near Long Beach, Long Island, and were about 3 feet from the ground. One of the nests contained two eggs.

Mr. Davis read from the *New York Times* of November 15, where it is stated that: "After nineteen days of unusually warm weather, the temperature dropped yesterday to normal coolness for a mid-Fall day." On November 5 it was 71 degrees and on November 12, 68 degrees. Such temperatures and the consecutive days of warm weather had a marked influence on the vegetation. On November 9 many roses and petunias were in blossom on Richmond hill near the Light-House. On November 13, sixteen species of plants were observed in bloom on the filled-in land near the docks at Tompkinsville. They were Asiatic Day-flower (*Commelina*), Bouncing Bet, Pepper-grass, Tumble Mustard, White or Dutch Clover, White-Sweet Clover, Evening-Primrose, Wild Parsnip, Morning-glory, Moth Mullen, Dandelion, two species of White Asters, *Galinsoga*, Yarrow and Pasture Thistle (*Carduus odoratus*). The White Sweet Clover, Dandelion, Yarrow and pasture Thistle were still in flower on November 23rd, and a plant of *Rudbeckia hirta*, or Black-eyed Susan, growing on Stuyvesant Place, was not killed until the frost of November 24, when ice three-quarters of an inch thick formed in a pail of water at 146 Stuyvesant Place—the first ice of the season.

Numerous butterflies were seen at Tompkinsville on November 13. *Colias eurytheme* was not uncommon and *Colias philodice* was represented by several individuals. A male Monarch

butterfly was flying from one dead stalk of golden rod to another vainly trying to find some flowers, neglecting meanwhile the plants of other species actually in blossom. A male and female *Junonia coenia* were collected as late appearing individuals. They were hardly able to fly. All of the butterflies had disappeared by November 22 except a single *Colias philodice*.

Attention was called to the earthquake of November 1st. Numerous Staten Islanders were awakened by the shocks that occurred about 1:05 A.M. The quake was felt more severely in Brooklyn and Queens than on Staten Island. The *New York Sun* of November 1st published a photograph entitled: "Shoring bolsters houses at 141 and 143 Sackett after the quake put cracks in their walls," and continued: "After a night of strange and almost unbelievable experiences which only earthquakes can produce, New York was assured officially today that it had endured the most severe seismographic disturbance in fifteen years, with small damage."

The meeting of December 28, 1935, was held in the Public Museum.

Dr. Wm. H. Wiegmann exhibited his stand for holding a small telescope for the study of distant birds. This telescope had been used with much success on Oakwood Beach. On October 23, 1935, he had observed at Rockaway Point, Long Island, a remarkable assemblage of gulls consisting of Bonaparte's, Herring and Black-backs.

The Christmas Bird Census, taken on Staten Island, December 22, 1935 by Howard Cleaves and Carol Stryker is to appear in Bird-Lore. (See January-February 1936 number, p. 51). Another census taken by Dr. Wm. H. Wiegmann and George B. Wilmott, is as follows: Red-legged Black Duck 83, Greater Scaup Duck 140, American Golden-eye 10, Buffle-head Duck 1, White-winged Scoter 1, Eastern Sparrow Hawk 1, Ring-necked Pheasant 4, Great Black-backed Gull 1, Herring Gull 375, Northern Downy Woodpecker 2, Blue Jay 2, Crow 3, Horned Lark 7, Black-capped Chickadee 9, White-breasted Nuthatch 1, Bluebird 9, Starling 45, Myrtle Warbler 3, House Sparrow 12, Goldfinch 1, Junco 31, Tree Sparrow 13, White-throated Sparrow 1, Fox

Sparrow 4, Song Sparrow 7, Snow Bunting 5. A Song Sparrow and a Chickadee were heard singing. The areas covered included Oakwood Beach to the Point; Richmond, the Moravian Cemetery, Tottenville and Ward's Point.

Mr. Wilmott related the experience that he and Mrs. Wilmott had in attempting to time the speed flight of a Double-crested Cormorant along the shore of the Gulf of St. Lawrence. The speed of the car was increased until the speedometer reading was 55 miles per hour, but the Cormorant did better than that and soon disappeared.

A black example of the common Muskrat was trapped by a boy near Lake's Island, Staten Island, and was reported by Mr. Andrew Zimmer. It was brought to the attention of the Nature Club by Mr. Stryker.

Mrs. George B. Wilmott exhibited a small terrarium in a flourishing condition containing plants of *Asplenium ruta-murata*, and the Walking Fern from Swartswood, New Jersey, collected November 5, 1935.

Mr. Wm. T. Davis called attention to some recent newspaper items of Natural history interest, such as the increasing number of wild ducks visiting the feeding stations in the Bronx Zoological Park; the appearance of the Magpie in the Metropolitan area, and the fact, recorded in *Science* for December 13, 1935, that a mature Black Widow spider may resort to ballooning, a habit here-to-fore recorded for the young of that species.

Mr. Davis referred to the accounts of peat-bog fires at Concord in the Proceedings of the Nature Club for November 23, 1929; October 25, 1930, and May 27, 1932, and showed photographs of the peat-bog fire observed near the corner of the Richmond Road and the Fingerboard Road, July 5, 1935. While this was a comparatively small fire it burned and produced a considerable amount of smoke for about a week.

Following the usual custom at the December meeting, the "Uncle Toby" books, now covering the years from 1923 to 1934 inclusive, were shown, together with other items written by A. W. Callisen in recent years. A letter from Uncle Toby, dated December 24, 1935, stated that he had prepared a book for this year, but had been too ill to type it, or draw the illustrations.

Much regret was expressed, and Mr. Davis, to whom the letter was addressed, volunteered to convey the very best wishes of the Club to "Our Uncle Toby."

The meeting of January 25, 1936, was held in the Public Museum.

Captain Thomas I. Miller described an amusing fight between two rabbits witnessed recently near his bird-feeding station at Annadale.

Mr. Peter Crowe exhibited a Sparrow Hawk which he had mounted recently. Also showed the eyes taken from the hawk and those from a starling for comparative study of their respective size and use.

Several reports on birds were made by the members, including records of numerous Cardinals that had been noted on the Island during the winter. They were particularly seen about Richmond, New Dorp, Westerleigh and Stapleton. Mr. and Mrs. Wilmott reported Cardinals, Bluebirds, Juncos, Nuthatches and Pheasants as recent visitors at their feeding station close to the Richmond Road, New Dorp.

Mr. Charles Pearson reported a large number of Scaup ducks and a pair of Buffle-heads near the shore at Richmond Valley, and Robins were devouring the winter persimmons in Mrs. Boesch's garden on Richmond hill.

Mr. Wm. T. Davis exhibited a box of butterflies containing *Vanessa atalanta*, "The Red Admiral," and stated that the first pair of legs were abortive and that the butterfly was able to walk about quite well, which many of our butterflies could not do. On the 5th of July, 1935, while near Brady's Pond, he had observed on the trunk of a large white oak three *atalanta* butterflies. They would land on the tree-trunk head downward and walk rapidly down the trunk and out on the ground to the distance of about a yard. Sometimes they chased each other—sociable but apparently not friendly. It was pointed out that examples of this species from Europe could not be distinguished from those from Staten Island, and that there appears to be a greater variation between specimens of *Vanessa antiopa* from Europe and America.

Mr. Davis called attention to the fact that the widely distributed Brood X of the 17-year Cicada would appear in 1936 in many states east of the Mississippi, and exhibited a map showing the known distribution of the insect on Long Island in 1919, when it was found in several localities on the south shore from Baldwin and Freeport to Mastic. In New Jersey Brood X has been recorded from every county except Atlantic and Cape May.

Mr. Charles C. Stoddard read selections from the writings of Gilbert White of Selburne, and several particular passages to illustrate White's character.

The meeting of February 29, 1936, was held in the Public Museum.

Mrs. Boesch reported, Robins, Cardinals, Downy Woodpeckers, Nuthatches, Juncos and Blue Jays as recently seen in her garden. The always amusing Gray Squirrels and the number of birds, make her place in Richmond an attractive sanctuary.

Mr. Walter Kleinfelder showed a piece of fossil wood weighing about ten pounds; several fossil corals, and Indian arrow-head, and what was supposed might be a lightning tube of partly fused sand all lately found at South River, New Jersey.

Miss Marion Olwig reported seeing a nice big nut in a hole, about a foot deep with many tracks of squirrels leading to and fro. Upon investigation it was found that the nut was frozen to the bottom of the hole, and the tracks indicated that the squirrels had tried in vain to dislodge the nut.

Mr. Howard Cleaves reported that Red-tailed hawks have been moving northward during the last few days.

Mr. Wm. T. Davis read the following observation contained in a letter from Mr. Roy Latham of Orient, Long Island, dated January 29, 1936: "We have a female Towhee wintering in our garden. The bird seems to be standing the cold and snow well, feeding on rice flakes and oatmeal. We have a large flock of Redpolls here now and several smaller flocks. The larger flock of about 100 birds are feeding on the beach wormwood, *Artemisia caudata*. We also have a flock of Pine Siskins, and a few Purple Finches which are living on the berries of the Japanese honeysuckle. This vine is becoming very common all through the

Orient woods. It makes a splendid shelter and fruits heavily giving abundant supply of food for various species of birds. The leaves of the vines are still green and yesterday small birds, as Goldfinches, Myrtle Warblers, Siskins, White-throat Sparrows and Waxwings were fairly swarming through the vines. I saw several Robins, also two Carolina Wrens and a Yellow Palm Warbler. On Sunday, the 19th, I saw a Turnstone on the beach of Gardiner's Bay, a normal bird, and the first I have seen here in midwinter. I flushed a Clapper Rail the same day up in the dry woods and saw three Ipswich Sparrows."

On February 18, 1936, Mr. Latham wrote: "We have twenty inches of ice on the bay below our farm, and the farm is a solid sheet of ice; an ice-boat could sail over my part of it. There is no open water, even on the Sound, so there is small opportunity to see any rare water birds. Swarms of Old-squaw ducks can be heard calling far off shore in Gardiner's Bay. There are many White-winged and Surf Scoters, Golden-eyes and a few Buffleheads with them. We have a small band of 19 Tree Sparrows feeding daily on the lawn. One White-throat, and two Song Sparrows, are with them, and the one Towhee which is wintering with us. Yesterday two fine Redpolls appeared and stayed for an hour. There are flocks of Horned Larks and Snow Buntings in the fields nearby. On a walk the other day—February 15—I saw three Carolina Wrens; four Flickers; a flock of 40 White-throats; five Robins and a few other species."

Mr. Wm. T. Davis also stated that Mr. Loring McMillen had reported seeing a Piliated Woodpecker near Sandy Brook, Woodrow, Staten Island, during the cold weather in the latter part of January. Mr. McMillen stopped his automobile and walked across the open ground to the tree where the woodpecker had alighted, so that he might get a closer view.

Mrs. John H. Boesch gave an interesting account of her recent visit to Panama; of the scenery, the people, of wild cattle and horses, of the bats about the old ruins and of the Iguanas about the roofs of the house and like places. She had brought a live one of the lizards to Staten Island and it was now in the collection of the Museum.

The meeting of March 28, 1936, was held in the Public Museum.

Mr. Charles W. Leng commented upon a recently published book on the Staphylinidae by Richard E. Blackwelder of Stanford University and recommended it highly to students of Coleoptera. The publication is Volume 94, No. 13 of the Smithsonian Miscellaneous Collections, March 2, 1936.

Mr. Leng stated that, owing to heavy snows and steady cold weather, the blossoming of both snowdrops and crocus was delayed to March 15th. Usually the snowdrop flowers are the first to appear but they and the crocus blossomed together this year.

Mr. Elwood Logan recorded the finding of a dead weasel near Arthur Kill Road, March 15th.

Mr. Howard Cleaves reported that he had seen about 40 to 50 pigs feeding in an enclosure at Mt. Loretto. Many Starlings took advantage of the opportunity of feeding with the pigs during the cold spell. If the birds were crowded by the pigs they would alight on their backs and await another chance to resume feeding. At times there were as many as six Starlings on one pig, the latter paying no attention to the birds. A few Cowbirds were also present.

Mr. Wm. T. Davis stated that Colts-foot blossoms were late this year and did not appear until about the middle of March. On March 22nd he and Dr. Chapin met the tame Crow now known to most persons living near Fort Wadsworth. Mr. Davis had first seen the crow, August 28, 1935, when it was accompanying its owner Mr. Sainz along the shore of Brady's Pond. At that time the crow flew to him and was very friendly to a stranger. It apparently is a Fish Crow, being smaller than the common crow and more highly colored. In the *Staten Island Advance* of January 8, 1936, the crow received an extended notice under the caption: "East Shore's Phenomenal Tamed Crow may Make off with your Earnings." On the 22nd the crow was visiting the gas station, corner of Bay Street and Hylan Boulevard, Ft. Wadsworth. It was not accompanied by any one; is very tame; lit on Dr. Chapin's shoulder, and played about with several children. It had collected a penny and also received several items of food.

Two fairly good close-up photographs were taken of the friendly bird.

On the same day we visited Crossley, near Whiting, New Jersey. At one time it was known as Giberson's Mill. An interesting clump of bushes of the black-berry, *Rubus andrewsianus* Blanchard, was discovered close to the road and the one-time mill pond. Specimens of this blackberry, known by the prominent ridges of its stem and large, straight thorns, collected at Oakwood, Staten Island, have been shown to the Nature Club. In the vicinity of the railroad leading from Whiting to Tuckerton, it was observed that the limbs of the scarlet oaks were laden with great numbers of the Gouty Oak Gall, *Andricus punctatus* Bassett, and photographs were taken of one of the unfortunate trees weighted down with the woody galls. Staten Island specimens of the galls were also shown.

Mr. Davis said that a specimen of the bug *Brochymena annulata* Fab., was found in the automobile on March 22. All of the New Jersey examples in his collection had come from about Lakehurst. It is found on the Pitch pines, the bark of which it resembles in color, and over-winters as an adult, coming forth on the warm days of Spring.

The meeting of April 25, 1936, was held in the Public Museum.

Dr. Frank A. Strauss reported a patch of *Hepatica triloba* growing well in his garden. The flowers are quite large and each plant has a number of blossoms. The stock came originally from Vermont.

Mr. Carlton Beil exhibited some Toads mounted after infiltration with paraffin, which had a life-like appearance, and were better for exhibition purposes than plaster cast specimens.

Mr. Carol Stryker exhibited a number of Indian implements found in January, 1936, on the East-shore of Surprise Lake, Union County, New Jersey. The material was protruding from a cut in the bank, and included a hammerstone, Indian clay pipe and flint chips. He also told of his experience with seven Wood-ducks found in the vicinity of the lake.

Mr. Wm. T. Davis stated that on April 19, 1936, while near

Brady's Pond, Grasmere, Staten Island, he had heard quite a loud drumming sound from the vicinity of an old automobile, and found that a Flicker was using the abandoned car as a sounding board. At intervals of about a minute it would rap vigorously on the iron, and no doubt found it a much more effective producer of sound than the trunk or branch of a tree.

Mr. Davis showed a dried specimen of the common eel found dead on the shore at Fort Wadsworth at the Narrows, May 25, 1935; also a preserved specimen of the Conger eel or Sea-eel, which does not enter fresh water, collected at Oakwood, Staten Island, September 29, 1932. He explained that the two species could be separated by the greater forward extension of the dorsal fin in the Conger eel, and by its more attenuated tail.

Mr. I. C. G. Cooper exhibited a considerable collection of seaweeds from various New England localities, as well as some from Staten Island, and illustrated his remarks with lantern slides from his own photographs. The specimens shown were all neatly mounted, with dates of collection and localities.

The meeting of Friday, May 22, 1936, was held at the home of Mrs. John H. Boesch, 421 Edinboro Road, Richmond, Staten Island.

Mr. Richard Fisco stated that *Formica fusca* ants sometimes kill tent-caterpillars. On one occasion he saw more than ten being attacked by ants.

Mrs. Trench had seen many dragon flies, probably *Anax junius*, near her home in Arthur Kill Road circling about a woodpile and devouring the winged *Termites* that came from the logs.

Mrs. Howard Cleaves stated that wild rabbits much preferred apples to carrots. This observation was confirmed by Mrs. Trench.

Mrs. John H. Boesch said that the pigeons from Richmond village that have learned about her feeding station on the hill, have, by their increasing numbers, become undesirable visitors. Also that the Norway rat that visits the feeding station, has numerous disagreements with the gray squirrels.

Mr. Wm. T. Davis exhibited specimens of the bug *Podisus placidus*, twenty-one of which he had observed on or near the

tents of the Tent Caterpillar on wild cherry trees near Richmond, Staten Island, May 1, 1936. The bugs over-winter as adults and can feed on Tent Caterpillars but for a short time before laying their eggs. The young bugs until after the first moult, are vegetable feeders, and by the time they assume predacious habits, the Tent Caterpillars are gone, and they kill other species of insects. If a colony of Tent Caterpillars consumes all the foliage of a wild cherry growing in the woods, they will quite often transfer to an oak, either of the red or white oak group. An instance was observed on the side of Richmond hill, May 15, 1936, where Tent Caterpillars were eating the foliage of a Mocker-nut hickory, which seemed to be an even more unusual departure from the preferred wild cherry diet of the wood-land colonies. If the caterpillars are in reach of apple trees, peach trees or sand plum bushes, they more often turn to them when the wild cherry is gone.

May 8th and 9th were unusually warm days and many dragon-flies appeared on the Island, no doubt tempted northward by the weather. The warm days were followed by cold ones, and as has happened in previous years, the dragon flies commenced to die. An *Epiaschna heros* was found dead at 146 Stuyvesant Place, St. George, May 21, and a few days previously two others had been found dead on the side-walks. A female that was found dead, May 14, 1927, and a male found May 28, 1930, both at 146 Stuyvesant Place, were also shown. This species, as well as *Anax junius*, often get drowned in the ocean to be washed ashore at this season of the year.

Mr. Davis stated that the Erect Silky Clematis (*Clematis ochroleuca*) is still to be found on Todt Hill, where there are about 100 plants. It, at one time, grew rather plentifully on the hill near Richmond, as well as on the Big Hummock at Watchogue. The plants at the last named locality were destroyed by the Gulf Refining Company. He exhibited specimens from Todt Hill dating back to July, 1888, as well as from other localities.

The Long-stalked Cranesbill, *Geranium columbinum* L., is growing about the old Perine house, 1476 Richmond Road, near the brook and the hedge on the westerly side of the house, as

it has for a number of years past. Specimens collected in 1930 and 1936 were shown.

Sampson Read and his sons, Sampson, Jr. and George, made baskets from the imported Purple willow grown for the purpose in what we now know as Read's Valley, nearly opposite to the Perine house. On May 18, 1936, one of these willows was found near the brook and botanical specimens collected, several other bushes also occur near the one-time willow swamp. The will of the elder Read is dated October 1, 1824, and as he mentions the Read's Valley property, which he left to his son, George, it is evident that the willows were growing there before that date (See *Staten Island and Its People*, pp. 614, 616).

Mr. Davis also showed specimens of the Crack or Fragile willow from some of the rather large trees growing along the Moravian Brook near the Todt Hill road.

The greater portion of the evening was devoted to Dr. Frank A. Strauss' account of his trip to Europe with his family about a year ago. In England he had visited the British Museum, where he spent some time, as he did also in museums in Belgium. He commented upon the generally fine display of the specimens. He gave a short account of the fauna and flora of Belgium; of its woodlands, marshes, and dykes, also of the seals of the river Scheldt. His account was illustrated by specimens, maps and beautifully colored postcards, some of them issued by the British Museum.

Literature relating to Staten Island

Periodica Americana, Catalogue No. 76, Argosy Book Stores, page 41, offers volumes 1-4 and parts of volumes 1-8, described as "Broadside, of the Proceedings of the Natural Science Association of Staten Island" for \$30. This price, being a considerable advance on publication price, should encourage those who have saved their back numbers. Another similar offering was made by Henry George Fiedler, viz: volumes 1-9 of the same Proceedings, plus volumes 1-6, of the Proceedings of the Staten Island Association of Arts and Sciences, for \$40.

Abstract of the Proceedings of the Linnaean Society of New York for the Two Years ending March, 1932; issued November 15, 1934. Harold V. Depuy of Princes Bay, on page 44, reports finding in late August a Praying Mantis which had caught a Ruby-throated Humming Bird and was biting at its breast feathers. The insect, prodded with a stick, released the bird, which darted away. He also noted that a Buddleia bush had attracted many butterflies, and that their wings on the ground indicated that many had been caught.

T. Donald Carter, under the caption "The Ornithological Year 1930 in the New York City Region" reports the following birds observed at Oakwood Beach by the late Charles Johnson, viz: 6 American Egret, 1 Hudsonian Curlew, on July 29; 1 Louisiana Heron, on August 2; 1 Forster's Tern, 4 Roseate Tern, 1 Least Tern, on August 4; and 1 American Golden Plover, on September 4.

William Vogt reports, for various observers in 1931, the following birds seen at or near Oakwood Beach, viz: Yellow-crowned Night Heron (Kuersi), Semipalmated Plover (Wiegmann), American Golden Plover (Janvrin), Hudsonian Curlew (Cruickshank, Kuersi), American Knot (Hix), Parasitic Jaeger (Chapin, Cleaves, Rich), Iceland Gull (Kuersi), Caspian Tern (Rich), Northern Shrike (Decker).

Proceedings of the Linnaean Society of New York for the Two Years ending March, 1934.

The Ornithological Year 1932 in the New York City Region, by William Vogt, includes the following Staten Island records.

Colymbus auritus. Horned Grebe—5, Oakwood Beach, May 21. (E. and M. Rich).

Clangula hyemalis. Old Squaw—2, Oakwood Beach, May 30 and July 3 (Rich).

Squatarola squatarola. Black-bellied Plover—Oakwood, May 4 (Janvrin).

Tryngites subruficollis. Buff-breasted Sandpiper—Oakwood Beach, Sept. 27 (Davis, Shoemaker, Wiegmann).

Larus hyperboreus. Glaucous Gull—"Summered at Oakwood Beach" (Wiegmann).

Alle alle. Dovekie—An enormous flight of these birds in late November.

Also in *The Ornithological Year 1933*, by Ernest Mayr, *Phalacrocorax carbo carbo*. European Cormorant—Oakwood Beach, Oct. 6 (McGee, Walker, Wiegmann).

Florida caerulea caerulea. Little Blue Heron—3, Oakwood Beach, July 29 (Wiegmann).

Botaurus lentiginosus. American Bittern—3, Staten Island, April 2 (Chapin).

Anas rubripes tristis. Common Black Duck—Nest with eggs, Meadow Island, Fresh Kills, S. I., May (W. T. Davis).

Accipiter cooperi. Cooper's Hawk—Breeding pair (Chapin, Cleaves).

Catoptrophorus semipalmatus subsp. Willet—Oakwood Beach, July 15 to Aug. 14 (Mr. and Mrs. Rich).

Larus atricilla. Laughing Gull—2, Oakwood Beach, April 13 (A. L. Walker, Dr. Wiegmann).

Larus minutus. Little Gull—Crooke's Point, July 27 (Chapin); 2, Oakwood, July 31 (Wiegmann) to Aug. 12 (Chapin) and 1, same locality, Aug. 27 (Chapin).

Uria lomvia lomvia. Brünnich's Murre—1, Oakwood Beach, Jan. 22 (Rich).

Proceedings Linnaean Society of New York for the Year ending March, 1935.

In a review of "The Ornithological Year 1934 in the New York City Region" by Joseph J. Hickey the following references to Staten Island occur, viz:

Clangula hyemalis. Old-squaw—Oakwood Beach, cripple, Aug. 12 (Carleton, Cruickshank, J. and H. Murdock, Sedwitz).

Mergus serrator. Red-breasted Merganser—5, Oakwood Beach, May 21 (Wiegmann).

Accipiter cooperi. Cooper's Hawk—Staten Island, bred for the second consecutive year (Cleaves).

Rallus longirostris crepitans. Northern Clapper Rail—Has wintered regularly during the last few years at Oakwood Beach (Wiegmann).

Larus minutus. Little Gull—Oakwood Beach, April 22 (Drescher) and May 22 (J. F. and R. G. Kuerzi); Lower New York Bay, off Robbin's Reef, April 29 (Mr. and Mrs. Rich), and off the Staten Island Ferry, April 30 (J. P. Chapin).

Chlidonias nigra surinamensis. Black Tern—Oakwood Beach, May 22 (J. F. and R. G. Kuerzi).

Calcarius lapponicus lapponicus. Lapland Longspur—60, Oakwood Beach, Nov. 18 (Rose, Sedwitz and others).

There are other less definite notices of Staten Island birds on pages 41, 51, 52, 54, and 101, indicating the popularity of Oakwood Beach for shore birds.

A Supplement to the New York State List of Coleoptera, by Kenneth W. Cooper in Bulletin Brooklyn Entomological Society, XXX, 142-159, October, 1935. The following additions to the Staten Island list result from the collections of the late Archibald C. Weeks, viz:

Perigona pallipennis Lec., April

Atronus pubescens Dej.

Cymatodera undulata Say, August

Corinthiscus leucophaeum Klug, July

Dromaeolus striatus Lec., July

Fornax badius Melsh., July

Haplandrus ater Lec., March

Chlamys cribripennis Lec., May, June

Anoplitis rosea Web., August

Thysanocnemis balaninoides Schffr., August

The identifications were made for Mr. Cooper by Charles Schaeffer, whose remarkable taxonomic work in Coleoptera has unfortunately been terminated by his death on August 30, 1934, in his 75th year.

Annual Reports

ANNUAL REPORT OF BOARD OF TRUSTEES, MAY 18, 1935.

The Trustees have held the four stated meetings required by the by-laws; in addition there have been seven meetings of the Executive Committee and a special meeting of the entire Board. At its annual meeting of May 26, 1934, the Board elected Mr. William T. Davis, in recognition of more than fifty years of service to the Institute, and in view of his urgent wish to be relieved of presidential duties, to the dignity of President-emeritus. At the same meeting, Dr. James P. Chapin, our distinguished ornithologist, whose work on African Birds has been honored by the gold medal of the National Academy of Sciences, was elected president, and Mr. T. Livingstone Kennedy, first vice-president. Other changes, necessitated by death or retirement, added to the Board Mr. George S. Humphrey, Mr. Joseph F. Burke, and Mr. Loring McMillen. The greatest loss during the year was the death on June 25, 1934, of Dr. Nathaniel Lord Britton.

The Board reports with gratification that a year of great activity, as indicated by the unusually large number of Executive Committee meetings, has resulted in progress in several directions. The Staten Island Zoological Society, organized as a section of the Institute, has under the leadership of Mr. Harold J. O'Connell, secured a legislative incorporation, under which the maintenance by the City of New York of the Zoo in Barrett Park is authorized. Its building is in progress, as well as the collection of animals to be housed therein.

The Staten Island Historical Society, in conjunction with our Section of Historical Research, has secured the appointment of its custodian, Mr. Loring McMillen, as Local Historian, and the assignment of the restored County Clerk and Surrogate's Building at Richmond for use in preserving and exhibiting the large accumulation of historical objects already amassed.

The Art Committee, Mrs. Muriel Mattocks Cleaves, chairman, in addition to continuing the exhibitions heretofore given, has secured the loan from the Metropolitan Museum of Art of its Neighborhood Exhibition of "Ancient Egypt: Its Life and Art." More than a thousand articles were included in this exhibition; it was illustrated by transparencies, descriptive leaflets, and motion pictures, and accompanied by gallery talks and illustrated lectures given by members of the Metropolitan staff. During its eight weeks duration it was visited by about 12,000 persons.

For the splendid assistance of the director and staff of the Metropolitan Museum, and for the aid of the officials of the Borough of Richmond, in these accomplishments we are sincerely grateful, for it has enabled us to increase our service to the public in each of the three principal departments of art, science, and history.

Less public, but for the future possibly of even greater value, has been the work on our library carried on under the direction of Mr.

Joseph F. Burke. We have long had a scientific library of several thousand volumes, serial publications, and pamphlets. This was enriched during the present year by the gift of about 500 volumes from Miss Harriet Louise Britton, constituting part of the private library of Dr. Britton. The value of all these books was impaired by lack of systematic arrangement; they are now in order and, where needed, in process of binding, thanks to the initiative of Mr. Burke and under his supervision, with the willing co-operation of various members of the staff, especially Mr. James Frampton.

The book binding operations have involved the purchase of equipment and materials, to which Mr. Rader has generously contributed, and in which Mr. Carlton Beil has been of assistance.

Other improvements in our equipment have been the gift from Mrs. Louis A. Dreyfus of a motion picture projector for 16 mm. film, which will increase our facilities for lectures; the asbestos covering of the steampipes in the auditorium, for which Mr. Rader supplied the material and Mr. Herman Moennich the labor; and the addition of a storage room north of the boiler room. This was designed by Mr. Rader, and constructed as part of the Borough President's W.P.A. Project No. 15. Under the same project, the painting of the stairways and hall has been completed, and still other improvements are in progress.

The accessions recorded during the year were 932 in number. Apart from Miss Britton's gift, already mentioned, some of the larger items were 60 lantern slides and 12 minerals from Mr. Charles L. Pollard, 180 lantern slides from Mr. George S. Humphrey, the typewritten records of St. Mary's P. E. Church from Mrs. Royden W. Vosburgh, and an unrecorded number of additions to the Museum Zoo from Mr. Hans L. Stecher and Mr. and Mrs. D. G. Colquhoun, whereby this interesting feature of our exhibition hall has been notably increased in size and variety.

Donations of money during the year have been made by Mr. William T. Davis, Mr. John Rader, Mr. George W. Tuttle, the Woman's Auxiliary, the Engineers' Society, and the Aquarium Society. Under the will of Dr. Britton there has also been established the Nathaniel Lord Britton and Elizabeth Gertrude Britton Fund, the income of which will be available for scientific research and publication and the increase of the collections.

The cost of keeping the Museum open on Sunday afternoons has been paid by Mr. Leng; the expense of attendance at the annual meeting of the Museum's Association by Miss Pollard, and at the American Federation of Arts by Miss Nash.

These increased activities have entailed increased duties for our small staff, weakened by the absence of Mr. Stryker, who has been assigned to the Barrett Park Zoo. Through the assistance of Mr. Charles E. Payne, supervisor on Staten Island for the C.W.S., the staff has been reinforced by part time service of Messrs. Addicks, Bailey, Creedman, Frampton, Sagaria, Siemer, and the Misses Currier and Olwig, each of whom has been helpful. Since the first of the year, Mr. Richard B. Leng has been in charge of our Sunday afternoon openings.

Even with such aid the year's results would have been impossible without the volunteer work of many of our members. Our vice-president, Mr. T. Livingstone Kennedy, filled the chair during Dr. Chapin's absence, and found it no sinecure; Mr. Ingalls continued for the 27th term his service as treasurer; Mrs. Greaves for a tenth term was the capable president of the Auxiliary; Mrs. Hoffmeyer directed the annual luncheon with even more than her usual success; Mr. Cleaves assumed the presidency of the Staten Island Bird Club; Mr. and Mrs. Flagg made the Musicale a brilliant event by their talent and hospitality; Mr. and Mrs. Cisco and Miss Gertrude Clark made the Garden Party a memorable feature; Mr. Willard Grimes as president of the Belles Lettres section has provided interesting and novel activities; Mrs. Bonney and her associates have extended the Philatelic meetings to an adult group; and other new organizations have been formed to study Mineralogy, Photography, and Italian History as related to Staten Island.

To all these friends, and many more unnamed, we are deeply indebted and grateful; and we must also commend the members of our staff, Miss Agnes L. Pollard, Mr. Carlton Beil, Miss Agnes C. Nash, Mr. Harrison Johnson, who by cheerfully accepting the additional duties involved in our increased activities, have helped in making them possible.

The result of all these activities, and of all this help, stated in figures, has been a total of 691 meetings held in the Museum, including classes from 36 schools, and groups from 30 organizations, which have taken advantage of our facilities, with a total attendance in the Museum of 39,476 persons, an increase of about 25% over any previous record.

ANNUAL REPORT—BOARD OF TRUSTEES, MAY 16, 1936

Nine meetings of the Board have been held during the year, as well as several meetings of its Executive Committee. The unusually large number of meetings was principally due to the increase in the Institute's endowment funds, which now yield an annual income in excess of \$600 restricted, however, mainly to natural science.

In matters of Art, Science and History, progress has been made. The art of Ancient Greece and Rome was shown for eight weeks in an exhibition lent by the Metropolitan Museum of Art. An exhibit of classical oil paintings was loaned by the Thomas Weitemeyer gallery through the kindness of Dr. Samuel A. Blan. An exhibit of Chinese art was obtained by the courtesy of Mr. Carleton A. Siemer. Exhibits of painting and sculpture by Staten Island artists and of Japanese prints were arranged by the Art Committee, of which Mrs. Muriel Mattocks Cleaves has become chairman, succeeding Mrs. F. Winthrop White; also of the work of the Museum Drawing Class, directed by Miss Agnes C. Nash. In conjunction with the Mayor's Municipal Art Committee, an Art Centre for Staten Island has been discussed, and an Art Association has been organized with Mr. Otto C. Wigand as president. This Association held a successful meeting on May 5, 1936.

In Science all the features of previous years have been continued with the addition of a Mineralogical Club, under the direction of Mr. Joseph F. Burke and Mr. Siemer, who have made important additions to our collection and progress in its systematic arrangement. Under Mr. Burke's direction also, with assistance from Mr. James Frampton and two bookbinders, the work on our scientific library has been continued. Descriptions of 14 new species of Cicadidae have been published by Mr. Davis, progress has been made by Mrs. P. A. Bonney in collating data for a list of Staten Island Plants, and studies in Mycetozoa and in Cryptogamic Botany, based in part on our collections, have been made by Mr. Robert Hagelstein and Dr. Wm. H. Wiegmann. Large additions to our collection of Coleoptera have been made by Mr. Leng, and arranged by Mr. Hans L. Stecher. Studies of the little known nudibranch mollusk, *Stiliger fuscatus*, found on Staten Island by Mr. Burke, have been made by him and Mr. Robert M. Wotton, and will be published in our Proceedings.

The Staten Island Zoological Society, originally a section of the Institute, and of which our president is also the presiding officer, has made such progress under the energetic direction of Mr. Harold J. O'Connell, assisted by Mr. Carol Stryker, that an opening of the Staten Island Zoological Garden is announced for June 10.

In History, our sister society, the Staten Island Historical Society, of which Mr. Davis is president, is nearly ready to announce the opening of the new Historical Museum at Richmond, under the direction of Mr. Loring McMillen. A staff of research workers, in connection with this project, have made use of our collections, as also have the officers of the Italian Historical Society, and writers for the project called "The American Guide." Inquiries by mail or in person on genealogical and historical matters have also required reference to our data. A collection of Coptic Tapestries, loaned by Dr. Anna M. Wellnitz of Brooklyn College, has been of interest. In one of our new cases we are now showing an example of Staten Island Pottery bearing date in 1793, with other related objects.

In the fields of Art, Science and History, our Institute lectures have been correlated with care and skill largely through the advice and aid of Mr. Burke. These lectures, and others given under the auspices of our various sections, and affiliated groups, may be regarded, to a great extent, as educational. Our service to the schools is, however, wholly of that character, and has grown during the year until it has reached 28 different schools; 75 classes have visited the Museum, usually for lectures, and in addition 11 lectures have been given outside the Museum, principally by Mr. Beil.

Statistically the results of the year's operation may be summarized as an attendance in the Museum of about 40,000 persons at a total of 708 meetings.

Apart from these developments, the renovation of the Museum building and its equipment under Works Progress Administration has been notable. Among the items have been concrete sidewalk, repairs to roof

and windows, the auditorium alterations, shelving and mineral cabinet in store rooms, plastering of walls, and painting of walls and floors. Under the direction of Mr. Burke, and with constant supervision by Mr. Siemer and Mr. Frampton, this work has been well designed and efficiently executed. The two last named, together with the bookbinders, Messrs. Creedman and Bailey, and the assistants in guarding and cleaning, Messrs. Addicks and Sagaria, have constituted the Service Project. The Engineering features have employed a considerable number of mechanics and the able supervision of Mr. Lawrence Minden to whom we have been greatly indebted.

Gifts of money have been received from Mr. Davis, whose generosity is untiring; from Mr. Rader, and from several organizations, notably the Women's Auxiliary and the Professional Engineers; and of material from Miss Eliza T. Harrison, Mrs. William Prall and others. The number of accessions, excluding books and beetles, was 154. Gifts of service have been so generously bestowed by members of the Institute, its sections and affiliated societies that a recapitulation is impossible. We are grateful to them for their help in carrying on the increased operation of the Museum, to our staff especially Miss Pollard, Mr. Harrison Johnson, Mr. Stecher and Mr. Beil, whose tasks have multiplied, and particularly to the young men whose work gives promise for the future. Still more, however, are we grateful to the old friends whose service has continued through many years, of whom shining examples are Mrs. Anton W. Hoffmeyer, for fourteen years the successful manager of the annual luncheon, Mr. Charles A. Ingalls, our treasurer, for 28 years, and Mr. William T. Davis, whose benefactions began 55 years ago.

INSTITUTE MEETINGS

October 20, 1934.—Mr. Joseph F. Burke delivered an address on Small Staten Island Plants, illustrated by stereopticon and microscopes.

November 17, 1934.—Mr. Howard H. Cleaves spoke on "Camera Studies of Wild Life," illustrated by motion pictures taken by himself in the Southern states.

December 15, 1934.—Mr. Herman W. Ordeman spoke on "Tropical Fish." Mr. William T. Davis exhibited the crayfish *Cambarus blandingii*. (See Pro. S. I. Inst. Arts & Sci., vol. 7, p. 111).

January 19, 1935.—Dr. Thurlow C. Nelson presented "The Story of the Oyster" with illustration by stereopticon views.

February 16, 1935.—Col. E. A. Havers delivered an address on "Ireland Old and New" with lantern slide illustrations.

March 16, 1935.—Fifth Annual Exhibition of Microscopical Objects, under the auspices of the Staten Island Microscopical Society.

April 20, 1935.—Mr. John Koestner exhibited motion pictures of Ancient Egypt: Its Life and Art, lent by the Metropolitan Museum of Art.

May 18, 1935.—Mr. Carl W. Cetti spoke on "The New York State Merchant Marine Academy" with illustration by motion pictures.

October 19, 1935.—Dr. Frank A. Strauss reported his attendance as delegate of the Institute, at the centennial of the Royal Museum of Anthropology and Cultural Arts in Brussels. Mr. Charles P. Titus exhibited an ascidian, *Ciona intestinalis*, obtained at the Biological Laboratory, Wood's Hole, Mass., of which institution he gave a brief history. Other exhibits were a diatom, *Rhizosolenia* sp. shown under the microscope by Mr. Titus, Staten Island algae shown by Mr. Stecher, Cape May plants shown by Mr. Davis, a Ruddy Turnstone, donated by Mr. A. J. Rodeck.

November 16, 1935.—Dr. Clyde Fisher, with lantern slide illustrations, described the Hayden Planetarium.

December 21, 1935.—Mr. George E. Ashby spoke on "The Witchery of Snow and Frost," with lantern slide illustration, and special reference to the work of the late Wilson A. Bentley.

January 18, 1936.—Mr. Dan McCowan, under the title "A Naturalist in the Canadian Rockies," gave an interesting account of his 30 years experiences, illustrated with lantern slides from his photographs.

February 15, 1936.—Dr. James P. Chapin spoke on "Cruising in the South Seas," describing his voyage in the "Zaca," with illustrations of the scenery, and animal life, of the islands visited.

March 21, 1936.—Microscopical Exhibition under the auspices of the Staten Island Microscopical Society.

April 18, 1936.—Mr. H. W. Zieler spoke on "The New Photography by Miniature Cameras."

May 16, 1936.—Prof. Harry Taub spoke on "Foods and Drugs in our Daily Lives."

HISTORICAL MEETINGS

March 28, 1935.—Dr. Ludlow Bull, of the Metropolitan Museum of Art, spoke on "Ancient Egypt: Its Life and Art." Also, during the Egypt exhibit, March 11 to May 5, lectures were frequently given for classes and groups of visitors by Mr. John Koestner and Miss Blanche Currier.

December 12, 1934.—Staten Island Italian Historical Society was organized by Mr. Daniel Santoro. Under the auspices of this society illustrated lectures were given by Rev. Carmelo Di Sano as follows:

April 16, 1935.—Antonio Meucci.

May 21, 1935.—Ancient Rome.

September 28, 1934, and monthly thereafter, the usual historical lectures for children were given by Mr. Leng, Mr. Beil or Miss Currier, on Friday afternoons. These lectures were in part repeated on Thursday afternoons for classes from P.S. 16.

October 17, 1934.—Daniel D. Tompkins Chapter, United Daughters of 1812, was organized in the residence of Mrs. Newton D. Chapman. Mr. Leng spoke on "Staten Island in the War of 1812."

HISTORICAL MUSEUM AT RICHMOND

In August, 1934, a meeting was held in the office of Borough President Joseph A. Palma, attended by Superintendent of Public Buildings Edward A. Ruppel, Mr. William T. Davis, president of the Staten Island Historical Society, Mr. Loring McMillen, curator of that society, Mr. Leng, and Mr. LaPiedra. At this meeting a request was made and granted that Mr. McMillen be appointed Local Historian, in place of Mr. Leng resigned, and that the buildings at Richmond, formerly used by the County Clerk and the Surrogate, and recently restored by C.W.A. workmen under the direction of the Borough officials, be assigned for use as a historical museum.

It was pointed out that such action was authorized by Chapter 181 of the Laws of 1919, and Chapters 381 and 634, Laws of 1921, and was endorsed by those present, representing the Institute as well as the Historical Society.

By February 22, 1936, the work of assembling and labeling Staten Island objects of historical interest had progressed sufficiently to permit of a meeting of the Staten Island Historical Society in the restored building, Mr. William T. Davis presiding. Mr. McMillen described the work accomplished with the assistance of Mr. Burton Kollmer, and others. Rev. L. M. A. Haughwout described the W.P.A. project which, with Mr. Charles Coleman Stoddard as supervisor, was assembling documentary data.

From January 15 through March 15, 1936, the exhibition of Ancient Greece and Rome prompted lectures and several informal meetings on Wednesday evenings, when as well as for school classes during the day, the motion picture "The Gorgon's Head" was shown. The exhibition, as well as the motion picture, were loaned by the Metropolitan Museum of Art.

The Staten Island Italian Historical Society made a tour of historic spots on September 19, 1935, led by Mr. Davis, and held a celebration on October 12, 1935, in honor of Columbus. Under their auspices Hon. Phelps Phelps broadcasted radio addresses on Garibaldi.

Historical lectures for children were given monthly.

SECTION OF ART

The Art Gallery of the Museum was occupied by the following exhibitions, viz:

June, 1934.—Work of Children's Drawing Class, directed by Miss Nash.

July, 1934.—Work of pupils of William Hurd Lawrence.

September, 1934.—Landscapes, New York to Florida, by Mrs. Muriel Mattocks Cleaves; also ten etchings from Whitney Art Gallery.

October, 1934.—Staten Island Architects.

November 7, 1934.—Staten Island Painters and Sculptors.

December 15, 1934.—Exhibits of Arts and Crafts.

January, 1935.—Japanese Prints.

February 2, 1935.—Work of Edna Lawrence and Constance Wingert.

March 11 to May 5, 1935.—Ancient Egypt; Its Life and Art, lent by Metropolitan Museum of Art.

May 13, 1935.—Water Colors and Pastels.

On April 22, 1935, the Museum was inspected by Mrs. Henry Breckenridge, chairman Mayor's Municipal Art Committee, and other members of that committee, including Dr. Samuel Blan and Mrs. John B. Handley-Greaves.

On May 7, 1935, under the auspices of the Staten Island Architects, a lecture on Better Planning for Staten Island was given.

On September 8, 1934, Drawing Class for children was resumed, and continued to June, 1935, when an exhibition of the work of the class was given. On September 14, 1935, Miss Nash, assisted by Miss Nancy Phillips, resumed the work. In November, 1935, Miss Esther Saipher replaced Miss Phillips.

In reorganizing the Art Committee, Mrs. Muriel Mattocks Cleaves became chairman, replacing Mrs. F. Winthrop White, whose health required retirement. The following exhibitions were opened:

August 5, 1935.—Traphagen School of Design.

September 9, 1935.—Loan Exhibit from Thomas Weitemeyer Gallery of Classical Art, through the courtesy of Dr. Samuel A. Blan.

October 9, 1935.—Exhibit of Staten Island Architecture, with an address by Mr. Arthur Holden on "Housing and the Future of Staten Island" on October 30.

November 4, 1935.—Exhibit of Staten Island Painters and Sculptors, which was continued through December.

January 15 through March 15, 1936.—"Ancient Greece and Rome," loaned by Metropolitan Museum of Art. At the same time the MacDonald Collection was shown and a collection of Coptic Tapestries loaned by Dr. Anna M. Wellnitz of Brooklyn College.

March 23, 1936.—Water Colors and Pastels by Staten Island Artists, followed by Oil Paintings by a group of artists interested in forming an Art Association. After several preliminary meetings such an Association was organized on May 5, 1936

SECTION OF NATURAL SCIENCE

Charles W. Leng, chairman.

The activities of this section have been continued and enlarged by the organizations separately reported, including Nature Club, Microscopical Society, Mineralogical Club, Bird Club; and some affiliated groups. Woodcraft Group, which continued to hold meetings for children four times each week (except in midsummer), outdoor walks twice each month, and handicraft classes on Saturdays; also fortnightly meetings for adults. Horticultural Society, which continued its quarterly meetings, illustrated lectures, and five flower shows, under the direction of Mr. Fred S. Heal, president, and committees for the flower shows.

Aquarium Society, Mr. Herman W. Ordeman, president, which held monthly meetings, devoted to the study of tropical fish.

Zoological Society, Dr. James P. Chapin, president, which under the active management of its vice-president, Mr. Harold J. O'Connell, made progress in the development of the Barrett Park Zoo, leading to a public opening on June 10, 1936.

STATEN ISLAND MICROSCOPICAL SOCIETY

Dr. William H. Wiegmann, president (1935); Mrs. Gladys H. Wilmott, president (1936); Mr. Joseph F. Burke, secretary.

Meeting of October 3, 1934.—Reports on Summer Activities. Mr. Joseph F. Burke exhibited a specimen of the diatom *Isthmia nervosa* in situ on *Euthora cristata*, collected by Mr. Frank J. Keeley, of Philadelphia, at Ogunquit, Maine. This species is uncommon on the Eastern coast.

Institute Meeting, October 20, 1934.—Mr. Joseph F. Burke, "Small Staten Island Plants."

Meeting of November 7, 1934.—Discussion of Surface Flows of Igneous Rocks, with exhibit of microscopical slides and specimens in illustration by Mr. George E. Ashby, Capt. Thomas I. Miller (including Apophyllite and Stilbite crystals from Staten Island, as previously reported in the Institute Proceedings), Mrs. Thomas I. Miller, Mr. Joseph F. Burke, and Mr. George B. Wilmott (section of rock from Graniteville Quarry). Dr. William H. Wiegmann reported on recent collections of Staten Island mosses. Other reports were made by Dr. Frank A. Strauss and Mr. William T. Davis.

Meeting of December 5, 1934.—Discussion of Intrusive Varieties of the Igneous Rocks. Microscopical Slides and specimens were shown.

Meeting of January 2, 1935.—Annual Meeting. Dr. William H. Wiegmann was elected president, succeeding Mr. George E. Ashby, who became treasurer. Mr. Joseph F. Burke was elected secretary, succeeding himself and relinquishing the office of treasurer, formerly combined. Microscopical objects of general interest were shown, Mr. George E. Ashby's exhibits being of lignite and quartz.

Meeting of February 6, 1935.—Objects of general microscopical interest were shown.

Institute Meeting, March 16, 1935.—Annual Exhibition. Directed by the Staten Island Microscopical Society.

Meeting of April 3, 1935.—Discussion with exhibits: Living animal and plant life of Pond and Marsh.

Meeting of October 2, 1935.—Dr. Frank A. Strauss, "Microscopical Experiences Abroad." After Dr. Strauss' description of his visit to England and Belgium, members reported on summer collecting.

Institute Meeting, October 19, 1935.—The program, a symposium, was arranged in part by the Staten Island Microscopical Society. The principal speakers were Dr. Frank A. Strauss and Mr. Charles P. Titus, the latter a guest of the Society.

Meeting of November 6, 1935.—Mr. Peter Thein read a paper, "The Preparation of Rock Sections for Study by Polarized Light," splendidly illustrated by projection of microscopical slides prepared by the speaker. Mr. Thein's manuscript was placed in the minute book.

Meeting of December 4, 1935.—Mrs. Gladys H. Wilmott gave a talk, "Pond Life in Classroom Work," illustrated by the micro-projection of living organisms.

Institute Meeting, December 21, 1935.—Mr. George E. Ashby, "The Witchery of Snow and Frost."

Meeting of January 8, 1936.—Annual Meeting. Mrs. Gladys H. Wilmott was elected president, succeeding Dr. William H. Wiegmann, who became vice-president. Mr. George E. Ashby was re-elected treasurer and Mr. Joseph F. Burke was re-elected secretary. Reports and exhibits were of general interest.

Meeting of February 5, 1936.—Talk by Mr. Joseph F. Burke, "Sedimentary Deposits." This was illustrated by the exhibits of several members. Mr. George E. Ashby showed a series of minerals found as crystals in the sedimentary deposits of North Carolina.

Institute Meeting, March 21, 1936.—Annual Exhibition. Directed by the Staten Island Microscopical Society.

Meeting of April 1, 1936.—Mr. George E. Ashby read a paper, "Oolites and Oolitic Structure." He was assisted by Mr. Peter Thein. The manuscript was placed in the minute book.

Institute Meeting, April 18, 1936. Mr. H. W. Zieler, "The New Photography by Miniature Cameras." Under arrangements made by the Staten Island Microscopical Society.

Institute Meeting, May 16, 1936.—Prof. Harry Taub, "Foods and Drugs in Our Daily Lives." Under arrangements made by the Staten Island Microscopical Society.

STATEN ISLAND MINERALOGICAL CLUB

President:—Joseph F. Burke

Secretary:—Carleton A. Siemer

The Staten Island Mineralogical Club, held its first meeting in the Museum on February 18, 1935. Mr. Joseph F. Burke was elected temporary chairman and Mr. Carleton A. Siemer as acting secretary. Mr. George E. Ashby spoke about mineral collecting on Staten Island, and exhibited the following pseudomorphs:—

1. Serpentine—Partly pseudo after Brucite.
2. Brucite—Drusy crystals partly pseudo after pyroxene on serpentine.
3. Brucite—Drusy crystals on serpentine.
4. Serpentine—Pseudo after tremolite.
5. Serpentine—Pseudo after actinolite on talc.
6. Hornblende—Tufted & radiating partly altered to serpentine.
7. Serpentine—Fibrous with chromite.
8. Serpentine—Showing crystalline angles & faces.

9. Magnetite—Altered pyrite & ochre on serpentine (Porcellophite)
10. Quartz—Pseudo after calcite (drift boulder).
11. Limonite—Pseudo after conglomerate.

Meeting of March 18, 1935.—Quartz and its varieties were discussed with several members exhibiting specimens. Mr. Ashby gave a lecture on quartz formations, illustrated by lantern slides.

Meeting of April 15, 1935.—Mr. Ashby gave an illustrated lecture on Calcite formations, including Calcium Carbonate as it occurs in the sea.

Meeting of May 20, 1935.—Mr. Burke lectured on the chemistry of the Feldspar group, and several members exhibited specimens of Calcite from various locations.

Field trip of May 30, 1935.—The Mineralogical Club held its first field meeting under the leadership of Mr. Peter Thein at Franklin, New Jersey. The members obtained many good specimens from the mine dumps of the New Jersey Zinc Company. The afternoon was spent in the nearby Atlas Stone Quarry, where more material was collected.

Meeting of September 16, 1935.—A preliminary meeting was held to discuss the various phases of mineralogy that might be studied during the coming season. Mr. Burke displayed the necessary equipment for blowpipe work, also illustrated the use of the blowpipe in determining mineral species. Mr. Lyman exhibited a very compact blowpipe outfit for field work.

Meeting of October 21, 1935.—Mr. Burke was elected President and Mr. Siemer, secretary. The rest of the meeting was devoted to blowpipe work.

Field trip, November 5, 1935.—A visit to the North Arlington Copper Mine in conjunction with the New York Mineralogical Club, where we spent about two hours underground and the rest of the time examining the dump.

Meeting of November 12, 1935.—Mr. Burke spoke on the identification of minerals by various simple tests, hardness, streak, color, etc.

Meeting of December 16, 1935.—Mr. Burke lectured on the crystallization of pyrite. Hand specimens and box mounts from various localities were exhibited by the members.

Meeting of January 21, 1936.—Mr. George B. Wilmott led an informal discussion on mineral fluorescence. Various types of filters were shown and also interesting reactions of five and ten cent store glassware.

Meeting of February 28, 1936.—Mr. Ashby gave a lecture on mineral Phantoms & Mimics, illustrated by lantern slides, after which we held an informal discussion on the formation of agates.

Meeting of March 16, 1936.—Mr. Peter Thein conducted a symposium on the minerals of Franklin, New Jersey. The members exhibited specimens from that locality.

Meeting of April 24, 1936.—Mr. Wilmott conducted a symposium on the minerals of Paterson, N. J. Both hand specimens and box mounts were exhibited by the members.

Field trip, May 30, 1936.—A trip to Bedford, New York, in conjunction with the New York Mineralogical Club.

STATEN ISLAND BIRD CLUB

Mr. Howard H. Cleaves, president, held monthly walks afield, gave several lectures for adults and children, maintained winter feeding stations for birds, and participated in the Christmas Bird Census on December 23, 1934, and again in 1935. In September Mr. C. M. Shipman, of Willoughby, Ohio, a former member of the club, spoke on "Wild Life by the Wayside"; on May 22, 1935, Mr. Allan D. Cruickshank entertained the annual meeting with "Rambles with a Bird Photographer." Lectures for children were given in the Museum on September 21 and October 5 by Mr. Stryker, and on March 1 by Mr. Beil. The social features of the club were maintained by meetings at the home of Mr. and Mrs. Cleaves on September 8, 1934, and at the home of Mrs. Thorsten Johnson on January 12, 1935.

The scientific study of bird life was furthered by several visits to Oakwood Beach; and especially by the voyage of Dr. James P. Chapin, September, 1934, to April, 1935, in the "Zaca", to the islands of the South Pacific. The monthly walks included Oakwood Beach on August 10, 1935, and May 9, 1936; other walks ended in social gatherings by the courtesy of Mr. and Mrs. Cleaves, Mr. and Mrs. Nesslinger, Mrs. M. A. Seery, and Mrs. T. Johnson. Lectures for children were given January 10 and April 3 in the Museum, and by request at several schools, by Mr. Stryker or Mr. Beil. For adults, lectures by Mr. Dan McCowan and Mr. Cleaves were provided, besides much information about the birds of the South Pacific in Dr. Chapin's lecture.

Tests were given for Boy Scouts, Girl Scouts, and other students and, to facilitate their studies, a special exhibit of winter birds was prepared.

SECTION OF BELLES LETTRES

Mr. Willard M. Grimes was elected president of this section in May, 1934. The section visited Englishtown, N. J., and old Tennent Church in June. Monthly meetings at the homes of several members were held throughout the year, beginning in September at the residence of Miss Maud Morgan. Mr. Lawton Mackall made an interesting address on "Portugal" in the Museum on October 19, 1934; Prof. George M. Whicher, of Amherst, Mass., was the principal speaker at the celebration of the Bi-Millennium of the poet Horace on November 21, 1934, also held in the Museum. Attractive programs were presented at each monthly meeting, varied with social features including a Yuletide celebration in December, and an annual dinner in February. In May, 1935, Mr. Charles Coleman Stoddard was elected president of the Section, and its activities were continued along similar lines.

WOMEN'S AUXILIARY

Mrs. John B. Handley-Greaves, president, held monthly meetings, usually at 11 A.M.; also a garden party on June 9 at the residence of Mr. and Mrs. George H. Cisco on Grimes Hill, a Musicale on October 6 at the

residence of Mr. and Mrs. Ernest Flagg in the Country Club, and an annual luncheon on April 24, 1935. Mrs. A. W. Hoffmeyer was the manager of the luncheon, Mrs. Henry Breckinridge, chairman of the Mayor's Municipal Art Committee, was the guest of honor. Among the speakers at the monthly meetings were Mr. Philip N. Youtz, director of the Brooklyn Institute of Arts and Sciences, Mrs. Charles E. Simonson, Mrs. Gladys Dobson, Miss Emilia Joan Schneider. On January 28, 1935, the monthly meeting was held at 3 P.M., and was a reception for the presidents of other Staten Island Women's Clubs to meet the officers of the City Federation.

Besides its contribution to the culture of the community, the Auxiliary during 1934-1935 made important contributions to the treasury of the Institute, and through the Hospitality Committee, Mrs. Hoffmeyer, Mrs. Witte, Mrs. Strauss, and Mrs. Leng, to its social features.

On May 29, 1935, Mrs. Willard M. Grimes became president, succeeding Mrs. Greaves who, after nearly ten years of service, declined re-election. The monthly meetings were continued with such interesting speakers as Gladys Gordon Fry, the "Bird Lady," and Katherine Grey, on "Experiences of a Theatrical Tour." The annual luncheon, under Mrs. Hoffmeyer's capable management, afforded an opportunity of meeting Miss Helen Varick Boswell, and the season closed with motion pictures chosen by Mrs. Towle.

STAMP CLUB

After conducting the Boys' Stamp Club successfully for several years, Mrs. P. A. Bonney became in 1934 the acting secretary of a group of adults by whom in 1935 the Staten Island Philatelic Society was organized. On November 14, 1934, an exhibition of 4,596 stamps was opened in the Museum and continued for eight days. Organization meetings followed resulting in fortnightly meetings with Mr. Joseph D. Carstang, president, and Mrs. Bonney, secretary. At these meetings addresses are frequently made by distinguished speakers as Mr. H. L. Lindquist, president National Federation of Stamp Clubs, Mr. Wm. Rosenblohm, editor of "Stampede," and others. Mr. Lance W. Staughton became president in May, 1936.

Under the auspices of this organization, a new exhibit of stamps of contemporary interest is shown every week.

EDUCATIONAL ACTIVITIES

Features previously established were continued and enlarged during the years 1934, 1935, and 1936, to include:

Stamp Club, Monday and Saturday, Mrs. P. A. Bonney; Woodcraft, Tuesday through Friday, Mr. Beil and Mrs. Stryker; Lectures, Thursday and Friday, Mr. Leng, Mr. Beil, Mr. Stecher; Drawing and Sculpture, Saturday, Miss Agnes C. Nash; Outdoor Walk, Saturday, Mr. Beil, Mr. Stecher, and Mrs. Stryker. Lectures at schools, clubs, etc., by appointment.

On January 7, 1935, the New York Telephone Company provided a special lecture on "Distant Communication," illustrated by sound motion pictures.

From March 11 to May 5, 1935, the exhibit of "Ancient Egypt, Its Life and Art," loaned by the Metropolitan Museum of Art, was attended by many school classes, to whom the exhibition was explained by Mr. John Koestner, and for whom motion pictures were shown by Mr. Beil. From January 15 to March 15, 1936, a similar loan exhibit of "Ancient Greece and Rome" was shown by the Metropolitan Museum.

Docent service every day by members of the staff, assisted at times by Miss Marion Olwig, and Miss Blanche Currier, who also assisted during 1935 in the lectures given on Thursdays and Fridays.

Among the schools that have used the Museum's educational facilities during the last two years are:

P. S. 4, 5, 11, 14, 16, 17, 18, 19, 20, 22, 23, 28, 30, 36, 39, 40, 41, 44, 45, 46, 48, on Staten Island, and P.S. 90, Bronx.

Curtis High School especially for Geology, Botany, and General Science.
Port Richmond High School.

Tilden High School.

Vocational High School.

Hunter College.

Arden, Ascension, Dongan Hall, Staten Island Academy, Willard-Mundorf, Notre Dame, St. Peter's, St. Joseph's, St. Dorothy, St. John Villa, Summer Schools, Jewish Community Centre, Ethical Culture, Brighton Heights, Brownsville.

Many of these schools came repeatedly, even in the case of P.S. 16, every week.

LIST OF DONORS, MAY 1934 TO MAY 1936

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REPORT OF TREASURER

MAY 18, 1935

Balance last report	\$ 1,196.33
N. L. Britton Trust Fund, restricted	10,000.00
Donations, for special purposes	1,329.00
Other receipts	2,288.43
	\$14,813.76
Paid on account of loan	\$ 775.00
Paid on account of salary, H. L. Stecher	936.00
Paid on account of printing, etc.	2,209.05
	3,920.05
Balance	\$10,893.71

REPORT OF TREASURER

MAY 16, 1936

Balance last report	\$10,893.71
N. L. Britton Trust Fund, restricted	8,970.00
Donations for special purposes	2,341.00
Other receipts	1,946.31
	\$24,151.02
Paid account of loan	\$1,250.00
Paid account of salary, H. L. Stecher	936.00
Paid account of printing, etc.	2,348.70
Paid account of investment, Britton Fund	8,000.00
	12,534.70
Balance	\$11,616.32

TREASURY ASSETS AND LIABILITIES

MAY 16, 1936

Cash in Banks, including \$10,000, restricted	\$11,616.32
John J. Crooke Fund, restricted	2,000.00
D. M. Van Name Fund, restricted	100.00
Permanent Fund, restricted	3,000.00
Natural Science Fund, restricted	3,121.00
Real Estate, at assessed value, restricted	14,000.00
Bonds, Britton Fund, restricted	8,000.00
	\$41,837.32
Liabilities, \$6,350.00.	
City appropriation for 1936	\$12,620.00

PUBLICATIONS OF THE INSTITUTE

1. PROCEEDINGS OF THE NATURAL SCIENCE ASSOCIATION OF STATEN ISLAND

These PROCEEDINGS were printed in octavo numbers, partly in leaflet and partly in pamphlet form, from November 10, 1883, to June 3, 1905, and are included in nine volumes, separately indexed.

They may be obtained by members and patrons at \$1.50 per volume. To others the price per volume is \$3.00.

2. PROCEEDINGS OF THE STATEN ISLAND ASSOCIATION OF ARTS AND SCIENCES

These PROCEEDINGS are in 8vo parts, 4 parts to a volume except V. 7, which was issued complete in one part. They contain the scientific and other records of the meetings of the Association and consist of v. 1-7, June 1905—May 1918.

By resolution of the Association all members and patrons may obtain back parts at 35 cts. or back volumes at \$1.25. To others the price is 75 cts. per part or \$3.00 per volume for both current and back issues.

3. PROCEEDINGS OF THE STATEN ISLAND INSTITUTE OF ARTS AND SCIENCES

Form and price same as PROCEEDINGS of the Association.

These PROCEEDINGS contain historical, scientific, and other articles, as well as records of the meetings of the Institute, and the current issues are sent free to patrons and to members in good standing.

VOL. 1, Oct. 1918—May 1922, p. 1-165, *pl.* 1-4. 1923.

VOL. 2, Oct. 1922—May 1924, p. 1-186. 1924. (Pt. 1, Special Issue.)

Special Issue, Jan. 1924. List of the Coleoptera of Staten Island by Charles W. Leng and William T. Davis. 82 p. and index. Price \$1.25.

VOL. 3, Oct. 1924—May 1925, p. 1-154. 1926.

VOL. 4, Oct. 1925—May 1927, p. 1-138, *pl.* 1-4. 1928.

VOL. 5, Oct. 1927—May 1930, p. 1-205. 1930-1931.

VOL. 6, Oct. 1930—May 1932, p. 1-220, *pl.* 1-8. 1931-1933.

VOL. 7, Oct. 1932—May 1934, p. 1-164, *pl.* 1-4. and *map.* 1933-1935.

Special Issue, Nov. 12, 1931. History of the Staten Island Institute of Arts and Sciences, prepared for Semi-Centennial Meeting; list of members included. 24 p. illus. Price 50 cts.

4. THE MUSEUM BULLETIN

Monthly octavo leaflets, containing official notices of meetings of the Institute and sections, important items of business transacted by the Board of Trustees, and descriptive items concerning the museum exhibits and activities. Begun in August 1908. Current numbers sent free on application. Back numbers 2 cents each.

Checks should be made payable to the Staten Island Institute of Arts and Sciences, and all remittances and communications addressed to

The Staten Island Institute of Arts and Sciences,
Staten Island, N. Y.

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PROCEEDINGS
OF THE
STATEN ISLAND INSTITUTE
OF
ARTS AND SCIENCES

EDITED BY
CHARLES W. LENG, WILLIAM T. DAVIS
JOSEPH F. BURKE
PUBLICATION COMMITTEE

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Issued February 17, 1938
Staten Island, N. Y.
THE SCIENCE PRESS PRINTING COMPANY
Lancaster, Pa.

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PROCEEDINGS
OF THE
STATEN ISLAND INSTITUTE
OF
ARTS AND SCIENCES

VOLUME VIII

OCTOBER 1916-MAY 1917

EDITED BY
CHARLES W. LEUNG, WILLIAM T. DRAKE,
JOSEPH F. BURKE
PUBLICATION COMMITTEE

RECEIVED BY THE
STATEN ISLAND INSTITUTE OF ARTS AND SCIENCES
STATEN ISLAND, N. Y.
1917

THE SCIENCE PRESS PRINTING COMPANY
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PROCEEDINGS
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ARTS AND SCIENCES

VOL. 8

OCT. 1936-MAY 1937

PART 3

Blue Jays and Audubon Copper-Plates

DR. CHARLES W. GOODWIN

Born in the environment of the southern Berkshires, the writer early learned the habits and traits of many of its shyest birds and animals. It was a great shock when investigating an early morning commotion to discover that the Blue Jays nesting in the Arbor Vitae evergreen, high above the sleeping room window, had raided the Robin's nest of fledglings in a Locust tree on the other side of the house. From the raised crests and roughed necks of the Jays, together with the piteous cries of the Robin, it was evident that some dark deed was abroad, and the evidence was complete with a glimpse of a Jay with a young Robin in its beak.

On various occasions the Jays had proved objectionable by announcing in no uncertain terms our excursions into the woods, thus interfering with plans and projects, and while we were a little uncertain about their character and standing, that early morning raid was a distinct shock. Robbers! thieves! even Cannibals. Could it be possible?

About this time appeared in the little library of the farm house, between Josephus' "History of the Jews" and Bunyan's "Pilgrims

Progress," a book "The Birds of New England and Adjacent States" which contained a picture captioned "Blue Jays *Cyanura Cristata*" Swainson.¹

We talked about that picture until the late Herbert K. Job, then a young man and occasional visitor at the house said, "Lets see that wonderful picture you are always bragging about; whereupon the book was produced and the much thumbed picture placed in view.

Job's face lit up with that kindly smile, and in that gentlest of voices he exclaimed, "Oh! Audubon. Undoubtedly Audubon." Now the late H. K. Job was an ornithologist who knew not only the birds, but the authors as well, and we suspect he had access to, and studied the Audubonia of Peabody and Fogg Museums. His attention being drawn to the Swainson credit remarked, "They were merry old robbers in those days," and quietly walked away. Our interest in the Blue Jay picture was heightened and boyish enthusiasm and bragging was transferred to the artist Audubon.

The years slipped by and our Samuel's "Birds of New England," like some of the "Audubon's Birds of America," went to the four winds.

In 1911 an advertising hand-bill announced an auction sale to take place on Wednesday, December 6th, at the Crooke estate, Great Kills, Staten Island. To scientists, naturalists, and collectors of antiques, this was a notable sale. The attic yielded the usual assortment, among which was noted a beautiful hooded maple cradle, the sale of which under the noise of the hammer and the shrill cry of the auctioneer "Sold" brought tears to the eyes of a lady standing nearby. A large collection of natural history specimens went to varied purchasers, some of the pieces finding homes in nearby museums. An aigrette-bearing heron was bid to some ten dollars by feminine admirers, and the next item, a tanager, only brought \$1.35, whereupon the auctioneer looked disgusted and remarked he could not understand peoples' tastes.

A quite extensive herbarium went to a nearby museum at a price of several hundred dollars. Numerous and varied items such as watches, clocks, and guns, were disposed of and at two o'clock the diminishing crowd was led into the living room.

¹ Birds of New England and Adjacent States (Samuels). Page 364.

We will start with the pictures on the wall, called the auctioneer to the attendant, and the first item handed down was not a picture but an engraved copper plate, the Blue Jay, being plate 102, "Audubon's Birds of America," framed in black walnut. Started by John Veltrie, the "junkey," at twenty-five cents, who, after asking to look at it, peeling up the backing board and scratching to make sure it was copper, boldly bid it up to one dollar and forty cents, when it fell to the present owner at \$1.50. Quite unnoticed by the purchaser, who was arguing with a friend over the authenticity of the plate, four other of these engraved copper plates were sold,² but not at junk prices.

The history of these plates has been studied by Mr. Wm. T. Davis and much of interest disclosed and verified.³

Plate 102 may be considered not only a typical but an outstanding example of the famous artist's work. The original picture was painted at Beech Wood Feliciana, La., in 1825,⁴ at a time when the artist's best work was much in evidence. The engraved plate measures 21 x 26 inches and weighs 14 lbs. In the original painting which is in the possession of the New York Historical Society, only the outlines of the Jasmine vine and one blossom are shown, the rest having been filled in later by some understudy, possibly Woods.

From the wide distribution of this bird, from comprehensiveness of coloring and delineation of traits and character together with the vines and setting, this picture may be classed as an example of Audubon's best talent in art and natural history.

The criticism that Audubon's pictures are not true to life, is often made, but it will be noted that this applies for the major part to the coloration of flowers, plants, and other objects in which artistic license was taken to emphasize and bring out the plumage coloration by use of the complementary color represented in the flower.⁵ A study of plate 102 shows that the yellow Jasmine suf-

² The Auk, Volume 51, No. 3, Phoebe Knappen, Some additional Audubon Copper-Plates.

³ Proceedings of the Staten Island Association of Arts and Sciences, Volume 3, Part 4, March-May, 1911.

⁴ Audubon. S. C. Arthur, p. 501.

⁵ Plate XXXIII, Audubon Birds of America (Goldfinch).

ferred, but the poet said, "A rose by any other name would smell as sweet" and the poetess apostrophizing the Jay said, "In my dark cedar on a snowy day, the most I'll ask of you is to be blue."

Plate 102 is another version of the blues worked out by a master naturalist and artist.

The Varied Thrush on Staten Island

WILLIAM T. DAVIS

On November 24, 1936, Mrs. John H. Boesch and her sister Miss Euphemia Mackie observed a bird unknown to them feeding on persimmons in company with robins in their garden, 421 Edinboro Road, Richmond. It was still present on November 26, when it was identified by the writer as the Varied Thrush or Oregon Robin, a rare robin from the northwestern states and Canada. On this occasion it was observed also by Miss Mabel Abbott and Mr. Hans L. Stabler.



THE VARIED THRUSH

In size and general appearance it resembles our native robin with which it usually associates on the occasions of its infrequent visits to the northeastern states. In 1878 Dr. Elliott Coues observed: "This bird is about the size of the common Robin, and not very dissimilar in general appearance, though the black neckband and orange wing-markings distinguish it at a glance." It has also an orange eye-stripe lacking in the robin.

On November 27 the bird was observed for several hours by Dr. Wm. H. Wiegman, Mr. and Mrs. George B. Wilmon and the writer. Mr. Wilmon's camera was focused on some persimmons placed as bait, and in due time the accompanying picture was secured. The bird was seen in the garden or vicinity until Sunday, December 6, and was observed by a number of persons in addition to those mentioned. It appeared to be a female, or possibly an immature bird.

As the records of the appearance of the Varied Thrush in the North Eastern United States have become somewhat confused in literature, the following chronological arrangement, with citations, has been prepared.

1848

New Jersey. (Exact date and locality not known.) Dr. Samuel Cabot, Pro. Boston Soc. Natural History. Meeting, March 1, 1848.

1851

Hoboken, N. J., December. G. N. Lawrence, *Annals, Lyceum of Natural History of N. Y.*, vol. V, p. 221, 1852. Birds of the Colorado Valley, Dr. Elliott Coues, 1878. The Birds of New Jersey, Witmer Stone, 1909.

1864

Ipswich, near Boston, Mass., December, 1864. Dr. Elliott Coues, Pro. Essex Institute, vol. V, p. 312, 1866-7. J. A. Allen, *Am. Naturalist*, vol. III, p. 572, January, 1870.

Prior to 1874 (exact date not known). Islip, Long Island (G. N. Lawrence). Birds of the Colorado Valley, Dr. Elliott Coues, 1878.

1889

Near Port Jefferson, Long Island, December 20, 1889 (Arthur H. Helme), Wm. Dutcher, Pro. Linnaean Soc. of N. Y., 1890, p. 9. Birds of New York, E. H. Eaton, 1914.

1905

Miller's Place, Long Island, N. Y., November 19, 1905 (Arthur H. Helme and George K. Cherrie); A List of the Birds of Long Island, N. Y., William C. Braislin, M.D., Pro. Linnaean Soc. of N. Y., October, 1907.

1936

Richmond, Staten Island, N. Y., November 24—December 6, 1936, Museum Bulletin, Staten Island Inst. of Arts and Sciences, January, 1937.

In his "Catalogue of Birds Observed in New York, Long and Staten Islands, and the adjacent parts of New Jersey," published in

the Annals of the Lyceum of Natural History of New York, vol. VIII, 1867, George N. Lawrence makes the general statement: "*Turdus naevius*, Bon. Varied Thrush. Rare." He had the New Jersey records cited above, but up to the year 1936 the bird had not been observed on Staten Island as far as known.

On December 18, 1936, Mr. M. L. Parrish wrote to me as follows: "I understand from Mr. Roger T. Peterson of the National Association of Audubon Societies that you might be able to give me full particulars about the Varied Thrush which appeared on Staten Island this year. I am curious to know when this bird was first seen. On Thanksgiving Day (November 26th), a Varied Thrush appeared at a feeding station outside of the sun porch of my house at Pine Valley, New Jersey, and has been there practically every day since. I reported it to Dr. Witmer Stone, at The Academy of Natural Sciences of Philadelphia, and he informed me that a Varied Thrush has been seen six times in this [part of the] country."

In a subsequent letter Mr. Parrish wrote: "The last appearance of the Thrush at my place was on December 13th, so that it stayed with me over three weeks. From the pictures of the bird in Audubon and the National Geographic Society publication, I feel confident that my Thrush was a male. There were no robins there during the time of its visit." Pine Valley is about fifteen miles southeast of Philadelphia.

First Salsy Clematis or Leather-Flower on Staten Island

WILLIAM F. BRITTON

In the *Proceedings of the Staten Island Institute of Arts and Sciences*, vol. I, pp. 120-122, 1921-1922, Dr. Arthur Hillebrand reviews the history of *Thermopsis (Clematis) latifolia* Ait. and its

It now reaches its northern limit on Staten Island, but at one time occurred on Long Island, where it was discovered by Captain Walter Faby in 1861. On Staten Island it was probably first recognized by the naturalist August S. Britton in 1867 according to his letter to the writer dated December 6, 1867.¹ Apparently there are no local records antedating 1867.

In the "Flora of Richmond County, New York," by Arthur Hillebrand and N. L. Britton, 1870, it is stated to be "Abundant on Tott Hill. Also found on Richmond Hill, and near Court House," now known as Oakwood. These localities are mainly on the S. 100-foot rock formation of the island, and where there is a considerable outcrop in the soil.

The writer on June 11, 1867, reported about 100 plants of *Clematis latifolia* growing on the Big Hummock, a sand dune at Watchogue near Old Place Creek, and about 3 miles distant from the Tott Hill locality. In commenting on its occurrence on the sand dune, Dr. N. L. Britton said that on "Staten Island this plant had been associated heretofore in the minds of botanists with the iron ore regions, and the localities on Tott Hill and near the Court House station were free from evidences of glaciation. On Tott Hill it grows on the yellow drift and outcropping serpentine."²

By 1921 the 100 plants of *Clematis*, reported in 1867 as occurring on the Big Hummock, had, through destruction, been reduced to about 20, and in the summer of 1920 the Gulf Refining Company occupied the locality and built numerous oil tanks.³

Dr. Hillebrand in 1922 did not mention the Court House or Oakwood station for the plant, and in the Hillebrand and Britton herbaria preserved by the Staten Island Institute of Arts and Sciences there are but two specimens from there, both collected by Dr. Britton, May 21, 1869. Dr. Britton said the writer found the locality empty

¹Proc. Nat. Sci. Assn. of S. I. Feb. 11, 1868.

²Proc. Nat. Sci. Assn. of S. I. Vol. I, p. 75.

³Proc. S. I. Inst. Arts & Sci. Vol. I, p. 120 and Vol. V, p. 107.

years ago, but apparently at that time it had not been recently visited by him.

It therefore gave the writer much pleasure to rediscover the locality for the plant on May 20, 1937, as reported at the meeting of the Nature Club, May 21, 1937, when a specimen was shown. On July 21, 1937, about 30 additional plants were found growing at a short distance from the five discovered on May 20. They were in the shade of young white birches and other trees where they would hardly be expected to grow and some of the plants lay sprawled out on the ground, but were still green. This locality is at the intersection of Maplewood Avenue and Amber Street as laid down on recent maps, and the Clematis will no doubt be destroyed when the land is more fully cleared.

In 1922 Dr. Hollick stated that plants of this Clematis had been transplanted from Staten Island and were doing well both in the Brooklyn and New York Botanical gardens, but they have since died, and another effort to locally preserve the species is to be made.

Mr. J. E. Spingarn of Amenia, Dutchess County, New York, has written me as follows under date of July 6, 1937: "The plants of *Clematis ochroleuca* which I collected on Staten Island two or three years ago seem to be thriving at Troutbeck. I found them on a place which I was told was about to be built over, so that they would have been destroyed entirely if I had not collected them.

"*Clematis ochroleuca* is in no danger of dying out, even if it should disappear from Staten Island, its most northern location. Its range is from Staten Island to Georgia, and it is quite plentiful in a number of states."

In the writer's herbarium there are specimens from the hillside at Mersereau's Valley; from Todt Hill in the grounds of the Country Club, as well as close to Flagg Place. Also from Richmond Hill; the sand dune known as the Big Hummock at Watchogue, and the recently rediscovered locality near Oakwood. A single specimen was observed on the hillside above the junction of Lincoln Avenue with the Richmond Road.

The Richmond County Country Club could preserve the species in their grounds, and thereby establish an attraction for their visitors, in addition to rendering a benefit to our Island and to science. The land where a number of the plants occur is not in use, and an inclosure of but a few square yards would protect them.

Natural History Records from the Meetings of the
Staten Island Nature Club

WILLIAM T. DAVIS

The meeting of June 27, 1930, was held in the Public Museum.

Mr. Howard Cleaves related his interesting experiences in the Alleghany State Park with a black bear and a colony of beavers. He secured several remarkable photographs.

Mr. John Koestner showed the seed pods of the southern vine *Maryland proboscidea* which had been grown in his garden in Grasmere. They are sometimes called "Devil's claws." Unicorn plant or Proboscis flower are also among its common names.

Miss Fania A. Wiley's "Ferns of Northeastern United States" was shown by Mr. Carol Stryker. This useful pamphlet is in handy pocket size and is well illustrated.

Mr. I. C. G. Cooper reported seeing many Seventeen-year Cicadas on May 25 while in Washington, D. C.

Mr. Wm. T. Davis exhibited several boxes of Seventeen-year Cicadas of Brood X, usually rare on Staten Island, but now appearing in the central and eastern United States. The specimens came from Maryland, Ohio, Pennsylvania and New Jersey; also from the southern part of Long Island.

He exhibited a dragonfly, *Libellula rubra*, one of several observed June 17, 1930, near the Moravian Cemetery, and stated that individuals of the species would probably be observed in other places on the Island during the summer. Some years it appears to be entirely absent from the Island.

The meeting of September 20, 1930, was held in the Public Museum.

Mr. John Koestner reported keeping freshwater pond snails collected in Brady's pond for some time in an aquarium. The tank contained myriads of infusoria.

Mr. I. C. G. Cooper had visited Maine and showed photographs taken on Peak's Island of Sanderlings which had allowed a close approach.

* These records have been compiled largely from the minutes of the club. Hans L. Stecher, Secretary.

Dr. Frank A. Bryant had visited Colorado and promised to show his photographs at a later date.

Mr. Howard H. Cleaves and Mr. Carlton Bell reported on the large numbers of Tree Swallows roosting in the thick growth of *Phragmites* in a swamp at Lawrence Harbor, N. J. Four or five birds were sometimes found on a single bending reed. The numerous droppings revealed, as expected, many bayberry seeds. *Ochocooper's* Hawks and Weasels, all of which were observed in the immediate vicinity, no doubt prey on the swallows. A Wood Thrush, Chewink and a Brown Thrasher were observed feeding on water pears in Mr. Cleaves' garden at Pleasant Plains. The Wood Thrush remained for three weeks.

Mr. Cleaves reported seeing an American Caspian Tern at Oakwood Beach on September 26, 1936. This bird has not been previously reported from the Island and has been rarely seen on Long Island.

Mr. Wm. T. Davis stated that Brood X of the 17-Year Cicada appeared on the Island in 1936 in about the same numbers as in 1885, 1902 and 1919. On June 4, 1936, Mr. Peter Crosse gave him a pupa skin found on a tree trunk at 1 Acorn Avenue, Oakwood. On June 12 a 17-Year Cicada was singing in a locust tree on the northerly side of Isabella Avenue, Oakwood and a second male was discovered by its song on the northwesterly side of the Ambury Road close to where Maple Avenue ends in the woods. It sang a number of times and was plainly in view, but owing to the close growth of young trees could not be captured. On June 17th another male was singing in a high tree in the grounds of the Vanderbilt Mausoleum, Moravian Cemetery. A female 17-Year Cicada was collected on June 19, 1936, by Wolfram Lischer at 10 Spring Street, Concord, and later brought to the Public Museum.

Mr. Davis exhibited a number of boxes of 17-Year Cicadas collected in parts of Pennsylvania, in New Jersey, in the southern part of Long Island and elsewhere, for Brood X appeared in great numbers in many states in 1936 though so rare here.

He also exhibited a number of pupal skins of the Cicada *Tibicen* coloratus, and pointed out that those found at 146 Smythessant Place, St. George, were considerably darker in color than the numerous examples found in the Moravian Cemetery, where the trees, unpruned and covered them to be of a slightly reddish color.

The Cicada Killer, *Specius speciosus*, usually has its burrows in dry situations, but both in 1935 and 1936 there were a number of burrows by the side of the path leading across the salt meadows at Oakwood. Here the ground is moist with numerous fiddler-crab burrows, and all of the vegetation, such as high-water shrubs, sea-lavender, *Salicornia* etc., are characteristic of the salt-meadow. On August 23rd ten burrows were discovered along the path and the Cicada Killers were actively bringing in their prey, which they secured on the edge of the upland and sometimes among the high-water shrubs. A Cicada was taken from one of the Killers as she deposited it at the entrance of her burrow, and it took her about 15 minutes to secure a second individual.

The dragonfly, *Libellula vibrans*, a specimen of which was exhibited at the June meeting of the Nature Club, was observed on several occasions during the summer. This species may not be seen on the Island for several years and then appears in numbers.

In the latter part of July and in August a great many young and green cones were found gnawed from two Austrian pines in the Moravian Cemetery. It was no doubt the work of gray squirrels in quest of the immature seeds and soft inner parts. A part of a branch is often gnawed off with the green cone which can hardly be agreeable food even for a gray squirrel. Mr. Davis exhibited a box full of the cones opened as described which he had collected in the Moravian Cemetery.

Mr. and Mrs. George B. Wilmott, recently returned from a vacation in the Great Smokies, exhibited their collections, including a series of Salamanders. Mr. Wilmott stated that he had seen on September 25, three American Egrets from the ferry to Elizabeth and that American Egrets had been observed all summer on the meadows near Rossville. As many as six had been seen at one time.

Dr. Wm. H. Wiegmann had noticed 27 Wilson's Petrels or Mother Carey's Chickens in the upper bay on June 19.

Mr. Peter Crowe showed a series of Brown Bats collected at Harrison, N. Y., during the summer. He found the bats in clusters of 25 to 30 hanging from a beam in an old barn. A number of Little Brown Bats were flying over a lake; some of them were captured, but they escaped by chewing their way through a sack in which they had been confined.

Mr. Carol Stryker stated that an exhibition of snake eggs by the Staten Island Zoological Society had proved of interest as the development of the young snakes could be followed and now and then one of them hatched.

The meeting of October 24, 1936, was held at the home of Mrs. John H. Boesch, 421 Edinboro Road, Richmond, following an outdoor supper.

The garden surrounding the home of Mrs. Boesch and her sister Miss Mackie contains a number of persimmon trees, the fruit of which together with the feeding station, attracts many birds. Chipmunks, Gray Squirrels, as well as Rabbits are frequent visitors, and even a Norway Rat has a home in one of the stone piles.

Mr. Charles W. Leng showed the November issue of the "Magazine for Program and Entertainment Committees" in which Dr. James P. Chapin and Mr. Howard Cleaves received considerable notice.

Mr. George B. Wilmott exhibited a green, fresh-water sponge, *Spongilla lacustris*, preserved in formalin. He collected it in Kaaterskill Creek, Greene County, N. Y., October 11.

Mr. Carlton Beil reported finding about 25 Fringed Gentians growing near Lawrence Creek, N. J.

Mr. Walter Kleinfelder had visited Slide Mountain over Labor Day and reported a mother Chipmunk that he had observed carrying one of her young.

Mr. Peter Crowe had followed the development of the Tiger Beetle, *Cicindela marginata*, found on the meadows at Oakwood, from the egg to the half-grown larva. He also stated that he had been struck in the face by a bat while riding a bicycle on the Richmond Road near Dongan Hills. The bat was being pursued by a Screech Owl.

Miss Dorothy Johnson told how a Blue Jay obtained peanuts from a squirrel near her home on Dudley Avenue in the Clove Valley. The Jay was seen to peck the squirrel on the head, the latter dropping the nut, which the Jay then would carry off. This procedure was repeatedly observed.

Two beautifully colored enlargements of photographs of a captive opossum feeding on persimmons, were shown by Mr. Carol Stryker.

Mr. Wm. T. Davis stated that a Black and White Creeper had been observed in Mrs. Boesch's garden, August 6, 1936, and expressed the hope that it might have been born on Staten Island. The last nests of this bird reported from the Island were found, May 30, 1890, when two were discovered to the northwest of Richmond. One nest contained two young and the other three eggs. (See Proc. Nat. Science Assn. of S. I., October 9, 1890.)

Mr. Davis further stated that on August 21, 1936, while he and Mr. Howard Cleaves were engaged in investigating Cicada Killers on the sandy ground near Rossville, Mrs. Cleaves was making observations on Tiger Beetle burrows. She found that a number of the burrows were about a foot deep; that near the top they bent for about an inch at right angles to the perpendicular part of the burrow, and that the opening near the surface of the ground was in the side and slightly above the bottom of an oblong pit. Here the larva could wait and seize its prey when it entered the small pit. A larva which we found in one of the burrows was shown, and as *Cicindela generosa* was observed on the sand, it may have belonged to that species.

A *Grapta interrogationis* butterfly and the chrysalis from which it had emerged were shown. On June 19, 1936, the chrysalis, which was attached to the stem of a Jack-in-the-Pulpit growing west of Hopewell, New Jersey, was observed by Dr. James P. Chapin, swinging from side to side with a rapid, pendulum-like motion. It was very vigorous, and upon being slightly disturbed would keep up the rapid motion for a long time. If the chrysalis had remained still, it probably would not have been noticed and so escaped. Also its gyrations might have protected it in the presence of a less powerful enemy.

Mr. Davis showed a box containing a number of plants of the common Biting or Mossy Stonecrop, *Sedum acre* L. The plant is abundant in one of the old quarries at Franklin, N. J. Many of those present tasted small portions of the stone crop which well justifies its name of "Pepper Crop," or "Poor-man's pepper." The plant, however, has a long list of common names, including some inaccurate ones, and well illustrates the necessity of scientific terminology. It is called in addition to the names already mentioned: Bird's bread, Creeping Jack or Charlie, Pricket, Golden Moss, Little House-leek, Golden-chain, Wall-moss, Tangle-tail,

Rock-plant, Mountain-moss, Ginger, Prick-madam, Treasure-of-Love and Love-entangled.

Mr. I. C. G. Cooper reported on behalf of the nominating committee and the following officers were elected: Mr. George B. Wil-mott, President; Miss Edna Peterson, Vice-President, and Mr. Hans L. Stecher, Secretary.

Appreciation of the services of Mrs. Miriam Campbell Stryker as president of the Club from its organization to date was expressed, and the Secretary was instructed to write her a letter to that effect.

The meeting of November 28, 1936, was held in the Public Museum.

Mr. Charles W. Leng announced the gift of two rare creatures from New Zealand by Miss Ida M. Mellen, of Brooklyn, *Hetero-japyx novae-zealandiae*, of the order Thysanura, and a *Peripatus*, which is considered a link between Annelida and Arthropoda. Both animals are at present on exhibition on the main floor of the Museum.

An English Sparrow with an abnormal development of its bill, an over developed skull and thickened head, and a crop full of corn, was picked up dead by John Abraham and was made into a study skin by Mr. Carlton Beil, by whom it was exhibited.

Dr. Wm. H. Wiegmann remarked that the fracture of the lower mandible which kept on growing abnormally might have finally caused the death of the bird.

Dr. Wiegmann also stated that he had seen a flock of Snow Buntings on Oakwood Beach in early November.

Mr. Carol Stryker reported a number of Bluebirds, and a small flock of Purple Finches near the Old Mill Road, Richmond.

Mrs. John H. Boesch reported on the strange bird among the robins that came to 421 Edinboro Road, Richmond, to feed on the persimmons. This bird proved to be a Varied Thrush, an account of which is given on a previous page. Mrs. Boesch also reported White Crowned Sparrows in her garden.

Mr. Wm. T. Davis gave a further account of the Varied Thrush, which was identified by him on November 26.

Mr. Davis showed a stone hoe found by him August 21, 1936, on the Indian site at Rossville to the east of Winant Avenue, where many implements have been found in the past.

A Green Frog, with the right hind leg missing, collected in a fish pool at Grasmere, Staten Island, September 7, 1936, by Warren Condit was also shown. The scar left by the amputation of the leg had completely healed over.

Mr. Walter Kleinfelder showed a banner-stone, found by him on the morning of Thanksgiving Day at Burial Hill near Richmond. He called attention to the fine line scratches on the surface of the stone.

Mr. George B. Wilmott related his experiences during his several visits to the famous Gaspé Peninsula, in company with Mrs. Wilmott, of the people and natural history of the region. He effectively illustrated his talk with a series of lantern slides and motion pictures. A fine set of photographs of the region was exhibited by Mr. Louis W. Anderson.

The meeting of December 26, 1936, was held in the Public Museum.

Mr. Charles W. Leng exhibited a book: "The Tertiary Flora of Alaska," and stated that it was of particular interest as Dr. Arthur Hollick, its author, was one time Director of the Staten Island Institute. He died March 11, 1933. The book was issued by the U. S. Government Printing Office in 1936, Professional Paper 182, U. S. Dept. of the Interior. It contains 185 pages with 122 plates, describing 108 new species and varieties of fossil plants. The foreword is by Philip S. Smith, an authority on the subject, who describes the book as a notable contribution to science.

A male House Wren was seen by Miss K. S. Seaman and Mrs. H. M. Trench in their garden, 651 Arthur Kill Road, on December 26.

Mr. Howard H. Cleaves said that he had covered something over 4,000 miles by automobile, and on this trip had visited Minnesota, the land of the tumbleweed and jack rabbit. Rough-legged Hawks, many ring-neck pheasants, as well as prairie chickens were observed. Some of these birds collide with the many automobiles and are killed. An outstanding natural history experience was a visit to an "Otter Farm" conducted by a German, Mr. Emo Leers. He is considered to be the only one in the United States who successfully raises otters. Mr. Cleaves further stated that the voices of the otters were most surprising to him and sounded like the quack-

ing of wild ducks. They are very playful, and are trained to retrieve pheasants. A litter of 3 or 4 young is usual, and food consists of fish, crawfish, horseflesh, also cod-liver oil.

Mr. Davis furnished a record of an otter that he had found dead in Brown's Pond, Newfoundland, N. J., April 28, 1907. The skull is in his collection. At that time the home of Arthur Radclyffe Dugmore was near the pond.

Mr. Davis also said that though October 27th was the coldest day of that date of record, with ice forming to the thickness of 3/16th of an inch at 146 Stuyvesant Place, and though on the 17th of November the thermometer registered 17 degrees, the warm weather of the middle of December was sufficient to cause the blossoming of some plants. He showed a dandelion flower found in the grounds of the Goodhue Home, December 18, and mentioned myrtle (*Vinca*) found in blossom on Richmond Hill by Miss Euphemia Mackie.

Mr. Davis also showed a photograph of a giant plant of the common mullein, *Verbascum thapsus* L., with a spread of leaves of a little over a yard, seen in one of the numerous quarries at Franklin, New Jersey, October 23, 1936. Dr. Wm. H. Wiegmann, Mr. George B. Wilmott and Mr. Jay A. Weber had also examined the plant.

Dr. Wm. H. Wiegmann exhibited the seaweed *Porphyra leucosticta*, collected on Oakwood Beach some years ago and identified at the time by the late Dr. Marshall A. Howe, of the N. Y. Botanical Garden.

A Christmas Census by Dr. Wiegmann and George B. Wilmott at Moravian Cemetery, Oakwood Beach and Richmond, resulted in the finding of the following birds: Black Duck 60, American Golden-eye (male), Herring Gulls, Downy Woodpecker 3, Hairy Woodpecker 1, Chickadee 3, House Wren, Robin 3, Starlings, House Sparrow, Gold Finch 3, Junco 60, Tree Sparrow 11, Great Blue Heron. Time 9.30 A.M.-3.30 P.M. 3 miles. Temp. 28-34; sky clear.

Dr. Wiegmann further reported that on close examination the Robins recently observed on Richmond Hill were found to be the Eastern variety. It was thought that they might be the Western Robin and have come along in company with the Varied Thrush recently seen at that locality.

The greater part of the evening was devoted to an exhibition and explanation of bird photographs by Mr. A. Tennyson Beals. In order to carry on this work it was necessary to secure a license from New York State, and also one from the Biological Survey. Their traps were placed in various locations in the garden at Elmhurst, Long Island. The bait consisted of suet, doughnuts, grains of various kinds, peanuts, chicken feed, etc. The best bait, however, appeared to be dropping water. A five-gallon pail with a hole made in the bottom, through which the water fell drop by drop, was used. A number of injured birds entrusted to them by neighbors had also received their care. Foremost among the bird patients and still a member of the Beals family, is Jerry, a Brown Thrasher. He might have had his liberty but refused to leave the vicinity. A number of enlarged photographs of Jerry and other birds were shown.

The twelve illustrated books prepared from 1923 to 1934, inclusive, by our "Uncle Toby" Callisen were shown at this Christmas meeting, as they have been at Christmas meetings of the Nature Club in the past, and it was regretted that Mr. Callisen could not personally attend.

The meeting of January 23, 1937, was held in the Public Museum.

Mr. Carol Stryker reported on the Christmas bird census and said that owing to warm weather conditions the birds appeared to be scattered this year, although a fair number had been listed. The list will appear, as usual, in "Bird Lore."

It was pointed out by Mr. George B. Wilmott that it is necessary to throw out grit with food for birds, when the ground is heavily covered with snow.

Mr. Herbert F. Stone exhibited an example of one of the wooden uprights of a house on Pearl Street, Stapleton, which had been destroyed by carpenter ants.

Beautiful specimens of the sea-weed, *Porphyra laciniata*, were shown by Mr. John Koestner. He found them growing on other kinds of sea-weeds at Princes Bay, January 1, 1937.

Mrs. H. M. Trench had recently discovered in a trunk in the barn at 651 Arthur Kill Road, a large nest constructed by White-footed Mice. Although late in the season one of the mice appeared

but half-grown. Their tameness was amusing. Also the Chipmunks continued to be active, and were seen almost every day near the house.

Mr. Wm. T. Davis commented on the recent warm weather and mentioned especially the walk of the Bird Club on January 9, remarkable on account of the number of warm weather signs observed. First several dandelion flowers were discovered in the Moravian Cemetery. Then peeper frogs were heard calling as if it were late fall or early spring instead of midwinter. Next, three bats appeared, flying with a zigzag flight near the grove of white pines, and just outside of the Cemetery gate a boy scout produced a small garter snake. Two other boys had been seized with the spirit of spring as a result of the warm winter days, and had their shoes and stockings off, and bare-legged, were paddling a raft about a small pond. On January 20th Nature terminated these warm weather activities by producing the first considerable snow storm of the season.

Mr. Charles A. Philhower, Supervising Principal of Westfield Public Schools, New Jersey, talked on "Indian Pathways." Of Mongolian type the Indians no doubt reached North America by way of Alaska. Then gradually penetrating the entire country, they together with the buffalo and elk made the most primitive type of highways. Many of the original paths are still traceable and are used to some extent.

The meeting of February 27, 1937, was held in the Public Museum.

Mr. Carlton Beil reported finding, February 27, 1937, a recently killed specimen of a Diamond-backed Terrapin on the inner shore at Crooke's Point. It measured about 8 inches in length and apparently had been killed by a blow on the back which split the carapace.

Bones and two skulls of the Norway Rat found, June, 1936, in an owl pellet in the garden of Mrs. Trench, 651 Arthur Kill Road, were added to the Museum's collection by Mr. George B. Wilmott.

Mr. Wm. T. Davis showed some flowering branches of the Asiatic *Jasminum nudiflorum* collected at the home of Mr. and Mrs. Howard Cleaves, 8 Maretzek Court, Pleasant Plains, and stated that the bush had been in flower since the first week in Janu-

ary. It usually does not flower in midwinter on Staten Island, though it does so in the southern United States. He also showed stems of a *Hydrangea* growing at 146 Stuyvesant Place, St. George, bearing leaves, in several instances, over an inch and a quarter in length. These leaves had appeared close to the ground.

Mr. Davis exhibited specimens of the 24 species of Cicadas known to occur in Oklahoma, and stated that six of them were also to be found on Staten Island and Long Island. These six species, however, do not, as far as is known, extend further west than Oklahoma or beyond the 100th meridian.

Mr. Louis Anderson exhibited an unusual specimen of the Knobbed Whelk, *Fulgur carica* from Roanoke Island, N. C., with the aperture on the left. In this respect it resembled the Left-handed Whelk, *Fulgur perversa*, which occurs in Florida.

Mr. Cornelius Denslow, of the Brooklyn Nature Club, stated that in starting that club he had patterned it after the one on Staten Island. He showed motion pictures of white-footed mice and their young, of skunks, rabbits, rattle snakes, bats, blue jays and other birds. An outstanding picture was one of a hog-nosed snake and her 30 eggs, showing the hatching of the latter.

The meeting of March 27, 1937, was held in the Public Museum.

Dr. Wm. H. Wiegmann talked on Lichens, Mosses and Algae. He explained the classification, origin, nature and reproduction of the three groups. He pointed out that the function of Lichens in nature is pioneering. Certain lichens start their existence in places not suitable for other plants. Combined with water their acids act upon the rocks, prying off minute particles and thus manufacturing soil. In this manner they serve as pioneers for the second class, the mosses, and these in turn for the higher plants. Near cities we lose lichens for the reason that they require pure air for their existence. Lichens, mosses, algae find a number of commercial uses as drugs, dyes, food, etc. Specimens and books pertaining to these plants were on exhibit.

Mr. Wm. T. Davis read a letter received from Mr. Roy Latham, of Orient, Long Island, who wrote in part as follows: "We have not had a big winter with the birds around Orient, in spite of the mild weather. I have never seen fewer birds in the Orient region. I think it is true that a cold winter is noted for larger numbers and

also rarer species on this end of the island. However, there have been fine reports from other sections of Long Island with a few very unusual species recorded.

"On February 20, a Snowy Owl showed up in Orient, the first one seen this winter. The bird was very tame and I could walk up to within twenty yards of it. It was a very white and small sized individual, indicating a matured male. No Robins were seen in Orient since November until February 12, when a flock of 24 appeared as new arrivals from either north or south, and with them came a Cooper's Hawk which seems to be "herding" them in the hill woods, for I see the hawk around them daily and find feathers of freshly killed robins. The same day the robins appeared there must have been a winter movement of birds, for that day I saw a flock of twelve Waxwings, not here before all winter; a flock of 16 White-throats, also new, and a flock of nine Flickers, the most I ever saw together in the winter. We had a Yellow Palm Warbler on January 27, and a flock of 23 Cowbirds. On February 23 two Lapland Longspurs were seen near the farm chasing each other around.

"I had an opportunity to make some interesting notes on our common toad, *Bufo fowleri* here this winter. I have been excavating on top of one of our highest hills in Orient—a place where I have never seen a toad in summer, and had to dig through some of the disturbed earth where I dug last June. Down in this soft loam and sand I started turning toads of various sizes. The nearest one to the surface of the ground was 23 inches. I did not think much about that, but then I began to dig them out deeper and deeper down. I found them at three feet, four feet, five feet; two at five feet ten inches, and one at six feet two inches, which was on the undisturbed pit floor. It was hard gravelly subsoil below that and the toad had burrowed down through over six feet of soft soil and made a round chamber where it was hunched up with closed eyes. When I turned it out early in February around mid-day the temperature was 45 degrees and the toad was very inert. After being on the warm surface sand 35 minutes the eyes opened and at 55 minutes the toad started to hop away quite briskly. I had no idea that toads worked so deep down before, even in soft earth. In the spring when plowing we turn up many toads in sheltered corners of the farm at an average depth of six inches.

"On January 26, I turned up a colony of Cave-cricket in my digging on the sandy hilltop. There were nine of them of various sizes in a small circle of seven inches in diameter. It is the species called *Ceuthophilus maculatus*, which appears to be common through the hills of Orient. I may add that aside from the nine referred to not another was seen in several days of digging. They evidently congregate in the fall.

"In my digging on the steatite culture site this winter, I located an uncremated skeleton buried eight feet deep and cached beside it there was a fine grooved ax and other objects."

Mr. Davis showed a box containing five specimens of *Cladonia* collected close to the natural Cranberry bog near Richmond, Staten Island. They were collected on the occasion of the field trip of the Torrey Botanical Club, Sunday, March 14, 1937. Owing to atmospheric changes Lichens are rapidly disappearing on our Island.

Mr. John Koestner presented a water-worn quartzose rock, about 6 by 5 inches and 3 inches thick, containing an oven-like cavity two and a quarter inches deep. The entrance to the cavity was less than an inch in diameter. The specimen was found near New Springville.

The meeting of April 24, 1937, was held in the Public Museum.

Dr. Wm. H. Wiegmann reported the Little Gull of Europe, an example of which he had observed on April 20, 1937, among Bonaparte Gulls in the upper bay.

A representative collection of Staten Island seaweeds, beautifully arranged and mounted under glass, was exhibited by Mr. John Koestner. It was presented to the Museum for exhibition.

Mrs. Juliet B. Trench exhibited a number of larvae of the Japanese beetle, which she found around grass borders while digging in her garden, 651 Arthur Kill Road.

Mr. Wm. T. Davis showed a photograph of one of the few remaining yellow pines on the Island, growing in a wood-lot next to 92 Cloverdale Avenue, Great Kills, and read the note on *Pinus echinata* published in the Proceedings of the Staten Island Association of Arts and Sciences, Vol. ii. p. 161, 1900. Staten Island is the most northeastern station for the yellow pine, and it is not known to occur naturally on Long Island.

He also showed photographs of five large pear trees, including the one 8 ft. 2 inches in circumference, recently photographed on the one-time Dr. Nelson place, No. 1 Monticello Terrace, Great Kills.

In "Sturtevant's Notes on Edible Plants," 1919, it is stated that a wholesome tea, one time used in Pennsylvania, may be made from the dried flowers of the golden rod. It was decided that *Solidago odora* tea be served at a fall meeting of the Nature Club.

Mr. Wm. G. Hassler, of the American Museum of Natural History, talked on San Domingo and Haiti, showing slides and motion pictures taken by him in 1932 and 1935. A collection of specimens from the famous citadel built by Henri Christophe, which was well illustrated by numerous pictures was also shown.

The meeting of Friday, May 21, 1937, was held in the Public Museum.

Mr. John Koestner reported on the large colony of Red-backed Salamanders to be found under stones in his garden at Grasmere.

Over 200 larvae of the native spotted Salamander, *Ambystoma maculatum*, had been placed recently in several localities on the Island by Mr. George B. Wilmott. Mrs. Wilmott exhibited a Venus Flytrap, which received much attention.

During the May migration, Dr. Wm. H. Wiegmann had observed numerous birds in Central Park, among them four White-eyed Vireos and a Golden-winged Warbler. Also a considerable number of Wood Duck at Van Cortlandt Park had been seen, one female perched high up in a maple tree.

Mrs. T. I. Miller reported numerous birds in her garden at Annadale, among them a Wood Thrush and a Mourning Dove. The Pheasants continue their visits to the feeding station.

Mr. Carol Stryker recorded the recent discovery of a Wood Duck's nest in a hollow tulip tree at the home of Mrs. E. Rheinheimer, 68 Hillcrest Avenue, Great Kills. There was no body of water near by, the pond having been drained. Three young ducks were found at the foot of the tree. These Mrs. Rheinheimer tried to raise, but without success. She reported that the ducks had nested in the tulip for the past three years.

Mr. Hans L. Stecher reported receiving the sea anemone, *Sagartia leucolena* from Wm. T. Davis, who found it attached to a

sponge in a contracted condition at Oakwood Beach, May 1. Placed in one of the marine aquaria it soon attached itself and expanded.

Mr. Wm. T. Davis read extracts descriptive of Staten Island from "A Gazetteer of the State of New York," by Horatio Gates Spafford, A.M., 1813. The Gazetteer in dealing with the insects of the State records: "Of Insects, we have a considerable number, but the wheat-insect of late, so injurious to wheat, seems on the decline." . . . The locust [Seventeen Year Cicada] occasionally appears, but does little injury, except by its punctures of tender limbs of fruit or other trees, to deposit its eggs."

The "Wheat-insect," is the Hessian-fly, which is supposed to have first appeared on Staten Island. The *New York Herald* of May 12, 1923, in "A Rogues Gallery of Insects," states: "He made his first appearance in 1770 on Staten Island near the spot where Hessian troops under the command of Sir William Howe debarked."

In his letter of April 5, 1937, Mr. Roy Latham wrote: "The cold backward spring has made up for the mild winter. Birds have been slow in showing up. The Osprey arrived, or the first one seen, on March 30, which I think is my latest date. First Bluebird showed up on March 30, also very late. Tree Swallow on March 25; Night Heron on March 20. First frogs and Peepers were not heard until today. Spring seems to be getting under way this week, for the first Cabbage and Purple-cloak butterflies were seen flying, robins started singing and the Screech-owl has left its all winter roost in the garden spruce tree. I am very busy planting the farm to potatoes right now."

The storm of April 27 cast thousands of crabs, mollusks, sponges, etc., on the south shore of the Island. Also toppled over two bungalows near the foot of Clark Avenue, Oakwood, smashed the sea-wall near the foot of Joline Avenue, Tottenville, as well as making other changes in the shore line. Thousands of hard clams were washed ashore, and were gathered for food in considerable numbers while fresh. Many were broken at one end, all in the same manner, the work it was suggested of the numerous sea gulls. Some of the hard clams had been drilled, probably by whelks, as the Oyster Drill, *Cyrosalpina cinerea*, is said to be: "unable to drill through the shells of full grown clams and oysters." The sys-

tematic deformity of the shells of many soft-clams, suddenly bent near the central part of the valves, was well illustrated by numerous specimens cast ashore. Numerous pieces of wood once embedded in the meadow peat have been released by the dredging operations at Crooke's Point and washed ashore.

On May 6, 1937, a male Luna moth collected near Castleton Corners, Staten Island, was brought to the Museum, and as usual in early appearing individuals, it belonged to the form *rubromarginata*. Specimens of *Tropaea luna* appearing in midsummer, are of the typical form, that is the wings lack the conspicuous red margin. (See: "The Red-Margined Luna, a New Variety," *Psyche*, June, 1912.)

Mr. Davis showed photographs of two large wild cherry trees, *Prunus serotina*, growing near the Old Mill Road and Oak Avenue, Oakwood, and stated that the larger of the two is 9 feet 2 inches in circumference.

Annual Reports

ANNUAL REPORT—BOARD OF TRUSTEES

May 15, 1937

Seven meetings of the Board have been held during the year. On account of the absence of Dr. Chapin, the presidential duties have been performed by Dr. Frank A. Strauss. Mrs. Grimes, president of the Women's Auxiliary, was elected a member of the Board, upon the resignation of Mrs. Greaves. On account of the resignation of Mr. Stryker to become director of the Barret Park Zoo, the Board has approved the promotion of Mr. Carlton Beil to assistant curator, and the appointment of Mr. Hans L. Stecher to the position vacated by Mr. Beil's promotion.

Under the operation of W.P.A. the staff has been augmented by the services of several efficient people working as many hours per week as permitted by W.P.A. regulations. Our library has thus benefited by the labors of Messrs. Frampton, Bailey and Creedman, our collections by those of Messrs. Siemer and Drucklieb, directed by Mr. Joseph F. Burke, of the Board of Trustees. The mechanical and clerical staff has also been reinforced by the services of Messrs. Addicks and Sagaria throughout the year; and of others for shorter periods.

Physical improvements in the Museum building and the grounds surrounding it have also been effected by W.P.A. assistance under the direction of departments reporting to the Borough President.

Our financial position has been improved by a further payment on account of the Britton bequest, by notable gifts from Mr. William T. Davis, and by other gifts from the Women's Auxiliary, Professional Engineers' Society, Mr. Ernest Shoemaker, and fees for life memberships. Our Woodrow property is leased for four years to Matthew Fuchs.

Our collections have been enlarged by a transfer from the Brooklyn Museum of their entire collection of minerals. This collection is of such magnitude that five truck loads have already been delivered, and two more are to come as soon as, by consolidation, we can make space for them, either in the Museum or in near-by buildings. In connection with this transfer we are indebted to the Borough President for the use of trucks, to Slosson Post for storage in their building, to the director for rental of storage space, and particularly to Mr. Carleton A. Siemer for constant attention to the details of the transfer.

Other additions to our collections of unusual scientific value have been made by Mr. Robert Hagelstein, including a collection of 160 species of Myxomycetes, not previously represented; by Dr. William H. Wiegmann, including mosses, algae and lichens, mounted in excellent manner; by Messrs. Koestner, Cooper and Stecher, who have collected seaweeds; and by Mr. Leng, of more than 1000 beetles.

By transfer from the American Museum of Natural History we have obtained 72 metal cabinets which will facilitate our storage problems; and from

the architectural division of the Board of Education, additional tables made more serviceable by the gratuitous labor of Mr. Herman Moennich.

The activities of the Museum have been continued and in some directions increased. In the Department of Art, in cooperation with the Metropolitan Museum of Art, we gave an exhibition of the "Art of China, with lectures by Miss Grace Cornell, Mrs. Virginia Perry, and Mr. Chas. F. Bopes. A new Art Association has been formed of which Mr. W. Irving Lewis is president. Under the direction of Miss Carolyn C. Mase the Art Committee, organized in 1908, continues to provide interesting monthly exhibits, one of which was devoted to S. I. Architects, another to the work of the Camera Club, and a third to that of the Museum Drawing Class, conducted by Miss Agnes C. Nash, assisted by Miss Bessie Blauvelt.

In the Department of Natural Science, Mr. Stecher's exhibit of living animals and plants, enriched by his personal contributions, continues to be an attraction to children and adults, and the group of Junior Naturalists under his direction is of great promise. The Bird Club, with Mr. Cleaves as president, the Nature Club, Mr. Wilmott, president, the Microscopical Society, Mr. Sheridan, president, the Mineralogical Club, Mr. Thein, president, all continued their meetings; during the year a new group interested in Astronomy has been organized by Mr. Drucklieb. A meeting of the Section of Natural Science was held on May 5, at which the progress made was presented in reports to be recorded in the PROCEEDINGS.

The first half of volume 8 of the PROCEEDINGS was issued Jan. 27, 1937, containing papers by Messrs. Burke, Davis and Wotton. The BULLETIN has been issued monthly except in June and July.

The Department of History has been occupied very largely in providing space and assistance for the workers on the historical project at Richmond, with a final result under the direction of Mr. McMillen and others which amply justifies the effort. It continues to render assistance in Genealogy.

The educational work in the form of lectures to visiting school classes and at the schools has been under Mr. Beil's immediate supervision and has been increased during the year; while our former efforts through Woodcraft groups, Friday lectures, Stamp Club, etc., have been continued. Mrs. P. A. Bonney, Mrs. John H. Boesch, Mrs. Kleinfelder, Mrs. Stryker, Miss Rodeck, Miss Dimelow, Miss Gessner, Mr. Frank E. Gunnell, Mr. Wallace MacBeth are among the many who have aided our educational program, and our lantern slide collection. The results of the year's work, in which many items have been summarized and some, like the expedition to the Organ Mts., the Flower Shows, the garden party at the Cisco residence, the Belles Lettres and Philatelic meetings not even mentioned, are due to the unselfish assistance of a great many men and women to whom the Board is profoundly grateful. Mr. Ned J. Burns, Mr. Wm. G. Hassler, Mr. Chas. A. Philhower, by their contributions to our lecture program, Mrs. Strauss, Mrs. Hoffmeyer, Mrs. Witte, Mrs. Leng, Mrs. Nesslinger, Miss Clark, by their social activities have helped us to record 38,363 persons registered by Miss Pollard daily as visiting the Museum, with more than 2000 others benefited in other ways.

INSTITUTE MEETINGS

October 17, 1936.—Mr. Carl Drucklieb spoke on "The Classical Composers." Mr. Carleton A. Siemer and Mr. Hans L. Stecher exhibited specimens obtained on a motor-car trip to Organ Mts. of New Mexico.

November 21, 1936.—Mrs. John H. Boesch spoke on "The West Indies and Panama Canal Zone," with illustration by lantern slides.

December 19, 1936.—Mr. Cornelius G. Kolff, under the title "Among Blue Eyed Fair Haired People," spoke of his journey to the countries surrounding the Baltic Sea.

January 16, 1937.—Mr. Ned J. Burns, acting chief, Museum Division, National Park Service, spoke on "A Visit to Our National Parks," with illustration by lantern slides.

February 20, 1937.—Col. Edwin A. Havers spoke on "Mary, Queen of Scots," with illustration by lantern slides.

March 20, 1937.—Microscopical Exhibition under the auspices of the Staten Island Microscopical Society.

April 17, 1937.—Mr. Carol Stryker gave "The Story of Barrett Park Zoo," with illustration by lantern slides.

May 15, 1937.—Mr. Loring McMillen spoke on "The New Historical Museum at Richmond," with illustration by lantern slides, followed by an exhibition of interesting material from its collection.

SECTION OF NATURAL SCIENCE

MR. CHARLES W. LENG, chairman; MR. JOSEPH F. BURKE, recorder

Meeting of May 5, 1937.—The program consisted of a short talk by Mr. Robert Hagelstein, describing the collection of Myxomycetes he had donated to the Public Museum's herbarium, followed by a discussion by Mrs. Ralph W. Nauss of her experiences in culturing Plasmodia of Myxomycetes.

Reports. Dr. William H. Wiegmann reported on Mosses, Lichens and associated plants, Mr. George B. Wilmott on Salamanders Collected for the Museum in the Great Smokies, Mr. Robert M. Wotton on Pathogenic Fungi, Mr. James Frampton on Offshore Collecting of Plankton, Mr. Peter Crowe on Small Mammals, Mr. John Koestner on Marine Algae, Mr. Joseph F. Burke on Diatoms, Mr. Peter Thein on Staten Island Rocks, Mr. Carleton Siemer on a mineral new to Staten Island, and Mr. William T. Davis on the Varied Thrush on Staten Island.

Exhibits. Mr. Robert Hagelstein, Collection of Myxomycetes. Mrs. Ralph W. Nauss, Living plasmodia of myxomycetes, under microscopes, and fruitings of laboratory-cultured plasmodia. Dr. William H. Wiegmann, Mosses and Lichens. Mr. George W. Wilmott, Living and prepared Salamanders from Great Smokies with some local specimens for comparison. Mr. Robert M. Wotton, Pathogenic Fungi. Mr. Peter Crowe, Prepared skins and skulls of small mammals. Mr. John Koestner, Mr. Hans L. Stecher and Mr. I. C. G. Cooper, Mounted and preserved Marine and Fresh-water Algae. Mr. Peter Thein, Thin sections of Staten Island rocks. Mr. Carleton Siemer, Staten Island anthophyllite.

Exhibits showing Museum Activities. Mr. James Frampton, Bookbinding of scientific books. Mr. Hans L. Stecher, Preparation of alcoholic specimens. Mr. Carleton Siemer, Crystal Models prepared by Mr. Frank Deimel, specimens from Brooklyn Museum minerals and Fluorescent mineral exhibit.

HISTORICAL MEETINGS, LECTURES, AND ACTIVITIES

Open meetings for adults have been held as follows:

October 28, 1936.—Miss Mabel Abbott spoke at the meeting of the Women's Auxiliary on "Literature on Staten Island."

January 23, 1937.—Mr. Charles A. Philhower spoke at the meeting of the Nature Club on "Indian Pathways."

March 18, 1937.—Meeting of the Staten Island Italian Historical Society.

Several meetings, historical in part, were also held by the Huguenot Society, Daughters of American Revolution, League of Women Voters.

The usual historical lectures for children were given by Mr. Leng and Mr. Beil; a special course of four lectures on American History was prepared for visiting classes from P. S. 16, including portraits of the Presidents.

Considerable assistance has been given throughout the year to W.P.A. research workers connected with the Writers' Project, and to those connected with the Historical Project at Richmond. Some help has also been given to individuals making genealogical searches.

Mr. Davis and Mr. Leng have contributed the part of the new ten-volume History of the State of New York relating to Staten Island.

SECTION OF ART

The Art Committee, organized in 1908, of which Miss Carolyn C. Mase became chairman in 1936, has provided the following exhibitions:

June, 1936.—Japanese Prints.

July, 1936.—Work of Museum Drawing Class.

September, 1936.—Etchings and Engravings.

October, 1936.—Staten Island Architects.

November, 1936.—Staten Island Art Association.

December, 1936.—Staten Island Camera Club.

January and February, 1937.—Art of China, lent by the Metropolitan Museum of Art.

March, 1937.—Water Colors, Pastels and Miniatures.

April, 1937.—Women Painters of the State of Washington.

May, 1937.—Memorial of Philip Rice.

Lectures were given in connection with these exhibitions: by Mr. Louis E. Jallade, "What does the Architect do?" twice by Miss Grace Cornell, "Color and Design in the Arts of China," and thrice by Mr. Charles Francis Bopes, "Art of China." Mr. Bopes and Mrs. Virginia Perry also gave gallery talks during the Chinese exhibition.

During the Architects exhibit, by cooperation of Mr. James E. Meek, deputy superintendent of school buildings, the new High School at Tottenville was shown in great detail.

In November, the work of the art classes in a number of public schools under the supervision of Miss Frances M. Gessner was shown in the auditorium.

Throughout the year Mrs. Sylvia DeZon, assigned to our Museum by the W.P.A. Art Project, has been making water color drawings of articles in our collections. Mr. Wallace MacBeth has been occupied, under the direction of Mr. Stecher, in coloring lantern slides.

The Staten Island Art Association was organized in 1936 with Mr. O. C. Wigand as president. It gave its first exhibition on November 5. Mr. W. Irving Lewis later became president.

The Museum Drawing Class has met on Saturday mornings under the direction of Miss Agnes C. Nash assisted by Miss Bessie Blauvelt.

The Section of Art is a member of the American Federation of Art; and has also cooperated with the Mayor's Municipal Art Committee. It owes much to the volunteer assistance of Mr. Arthur Beaumont, Mrs. Henrietta Beaumont, Mr. and Mrs. F. Winthrop White, Mr. and Mrs. O. C. Wigand, Mrs. Muriel Mattocks Cleaves, Miss Carolyn C. Mase and Mr. W. Irving Lewis.

STATEN ISLAND BIRD CLUB

MR. HOWARD H. CLEAVES, president; MR. CARLTON BEIL,
acting field-secretary

Winter feeding stations were maintained at the Bird Sanctuary in New Springville Park, at the Moravian Cemetery, and at the residences of Mrs. H. M. Trench and Mrs. A. A. Rottmann. Members of the Woodcraft Group assisted.

Monthly walks were continued with assistance in selecting the route from Mr. William T. Davis. Several ended in social gatherings by the courtesy of Mrs. M. A. Seery, Mrs. J. H. Boesch, Mr. and Mrs. Loring McMillen, Mr. and Mrs. K. O. Nesslinger, Rev. and Mrs. H. A. Meyer.

Educational Work, besides lectures in the Museum and at schools, was extended to Scouts and the library at St. George.

For Boy Scouts a Merit Badge Course was operated one evening each week from January to March, followed by field work in April and May, and instruction at troop meetings. An average of 15 boys and leaders attended this course, of whom 10 have been awarded merit badges.

For Girl Scouts instruction has been given in the Museum and at troop meetings in Mariners Harbor and New Springville. A Bird and Nature Walk was led for a troop from Manhattan. A group of model feeding stations was exhibited from December through February in the St. George library.

At the annual meeting of the club on May 19, Mr. Beil reported progress in revising and cataloging the Museum collection, a task facilitated by the acquisition of additional metal cabinets. Mr. Cleaves, Dr. Wiegmann, Mr. Wilmott and Mr. Stryker had participated as usual in the Christmas Bird Census; and Mr. Cleaves had observed Cooper's Hawk nesting on Staten Island for the fifth consecutive year. Mr. Davis reported the occurrence of the Varied Thrush, November 24 to December 6, 1936, being the seventh

record for northeastern America. The annual meeting closed with an address by Mr. Alfred E. Cookman on "Romance of Bird Life."

STATEN ISLAND MICROSCOPICAL SOCIETY

MR. JOHN M. SHERIDAN, president; MR. JOSEPH F. BURKE, secretary

Meeting of October 7, 1936.—Reports by members on Summer Collections.

Meeting of November 4, 1936.—Mrs. Agnes Vinton Miller gave an illustrated talk, "What Plants Have to Offer." Mr. George E. Ashby exhibited and explained devitrified glass.

Meeting of December 2, 1936.—Dr. William H. Wiegmann gave a talk, "The Microscopy of Tumors."

Meeting of January 6, 1937.—Annual Meeting. Mr. John M. Sheridan was elected president, succeeding Mrs. Gladys H. Wilmott. Dr. William H. Wiegmann was reelected vice-president, Mr. George E. Ashby, treasurer, and Mr. Joseph F. Burke, secretary.

Meeting of February 3, 1937.—Exhibit by members of insect mounts.

Institute Meeting, March 20, 1937.—Annual Exhibition. Directed by the Staten Island Microscopical Society.

Meeting of April 7, 1937.—Mr. George E. Ashby gave a talk, "Glass and its Decay," exhibiting specimens from his fine collection.

STATEN ISLAND MINERALOGICAL CLUB

MR. PETER THEIN, president; MR. GEORGE B. WILMOTT, secretary

Meeting of October 30, 1936.—Mr. Carleton A. Siemer spoke on his Mineral Collecting Trip to the Southwest, exhibiting specimens from Pecos, Texas, and Organ, New Mexico.

Meeting of November 27, 1936.—Mr. Joseph F. Burke gave an informal talk on Mineral Collecting.

Meeting of January 29, 1937.—Annual Meeting. Mr. Peter Thein was elected president, succeeding Mr. Joseph F. Burke and Mr. George B. Wilmott was elected secretary, succeeding Mr. Carleton A. Siemer. Mr. Thein conducted a symposium on the Minerals of Bedford, N. Y.

Meeting of February 26, 1937.—General symposium on the Minerals of Staten Island with exhibits by Messrs. Wilmott, Thein and Ashby. Mr. Burke spoke on the geology of the Island particularly in relation to its minerals.

Meeting of March 26, 1937.—Mr. George E. Ashby gave an illustrated lecture on Sand. Mr. Burke discussed the formation of sand and exhibited specimens collected along the New Jersey coast from the Highlands to Delaware Bay.

Meeting of April 30, 1937.—Symposium on Copper, Lead and Iron minerals. Specimens were exhibited by Messrs. Ashby, Burke and Thein.

WOMEN'S AUXILIARY

Mrs. Willard M. Grimes, president, held monthly meetings, usually at 11 A.M., also a Garden Party on June 20, 1936, at the residence of Mr. and Mrs.

George H. Cisco. The Martens Mandolin Orchestra and the Harmony Entre-Nous Choral Society provided entertainment. The annual luncheon was held on April 21, 1937, under the direction of Mrs. A. W. Hoffmeyer, with Mrs. Rudolph Binder, president Daughters of Ohio, as guest speaker, and music by the Sedgwick Trio. The regular meetings were:

May 27, 1936.—Motion Pictures, selected by Mrs. H. F. Towle.

October 28, 1936.—Miss Mabel Abbott, "Literature on Staten Island."

November 18, 1936.—Afternoon Tea, with Mrs. William Foster Rowland, president New York City Federation of Women's Clubs, as guest of honor.

December 16, 1936.—Christmas Readings by Mrs. Towle, and selections by Staten Island Academy Choral Club.

January 27, 1937.—Miss Leola Wong, "Chinese Customs."

February 24, 1937.—Florence Otis, "Development of American Music."

March 31, 1937.—Charles W. Leng, "Czechoslovakia"; Music by Mrs. P. Feldman Stillwell, Mrs. Robert W. Moller, Mrs. James C. Crane.

SECTION OF BELLES LETTRES

Miss Mabel Abbott was elected president at the meeting of May 30, held at the home of Mr. and Mrs. L. E. Daniels. On September 27, 1936, the section met at the home of Miss Morgan. The meeting of October 25, 1936, was devoted to the "History of Ships," by Mr. Lawton Mackall. That of November 29, at the home of Mr. and Mrs. Mark B. Kerr, brought a varied program in which Mr. L. L. Callan, Mrs. Russell Coles, Mr. Joseph Latham, Miss Katherine Grey and Miss Josephine Dockray took part. On December 27, Miss Emily Kolff was the hostess. The annual dinner was held on February 27, 1937, with "Relentless Realism," a farce by Mr. Mackall, as its main feature. On March 21, the meeting at the home of Mr. and Mrs. Harry Kuhn made an opportunity for Mr. Wellington Roe to present a "Survey of the American Reading Public." The final meeting of April 25 was held in the Historical Museum at Richmond. Mr. William T. Davis read a legend "The Bible and the Cow," Miss Jane DePuy read selections from the "Diary of Philip Waldach," and Miss Alice Lawrence spoke of "The Present Status of the Historical Novel."

These meetings were, except the annual dinner, held on Sunday afternoons.

STATEN ISLAND PHILATELIC SOCIETY

MR. LANCE W. STAUGHTON, president; MRS. P. A. BONNEY, secretary

This group was organized in 1934 with Mr. Joseph D. Carstang as president and has continued its fortnightly meetings throughout the year. An exhibition of postage stamps is made in the Museum, with labels explaining their historical and biological significance, and is changed weekly. Round Table discussions, varied by auctions, during the past year, were conducted by Messrs. H. S. Thomson, Jr., Daniel M. Schneider, Cornelius G. Kolff, and Clare H. Brown. The annual dinner, on December 28, was directed by a committee, Mrs. Vivian Prien, chairman.

The Boys' Stamp Club, directed by Mrs. Bonney, has continued its meetings on Mondays and Saturdays for its fifteenth year of success.

ASTRONOMY CLUB

On Tuesday, March 16, 1937, an Astronomy Club was organized with Mr. Carl Drucklieb as president. The first following meeting was held on April 20; Mr. S. Whitfield lectured on the construction of small telescopes, following which Mr. Charles L. Schaefer and others participated in a general discussion.

Other organizations meeting in the Museum were Staten Island Horticultural Society, Mr. Fred S. Heal, president, which provided five flower shows.

Staten Island Camera Club, Mr. Herbert Heizman, president, which provided a photographic exhibit in the Art Gallery.

Junior Naturalist's Club, directed by Mr. Hans L. Strecher, the members of which contributed to the successful operation of the Museum.

EDUCATIONAL ACTIVITIES

These for children included Museum Games for the youngest, directed by Miss Blossom Rodeck; meetings of Stamp Club, directed by Mrs. Eva R. Bonney, of Drawing and Sculpture Class, directed by Miss Agnes C. Nash, with Miss Bessie Blauvelt assisting, and of Woodcraft Group, directed by Mr. Carlton Beil and Mrs. Miriam Campbell Stryker. These meetings were varied by Outdoor Walks on Saturdays, and reinforced by Illustrated Lectures on Fridays.

The service was extended to schools, public, private and parochial, including P. S. 11, 12, 14, 16, 17, 19, 22, 34, 36, 39, 40, 44, 48, and 90 (Bronx), McKee H. S., Elm Park Vocational, Curtis H. S., P. S. Art Classes, Monroe H. S. (Bronx), Hunter College Geology Class. Also Staten Island Academy, Notre Dame, St. Mary's, St. Peter's, St. Stanislas, Mt. Loretto, Jewish Community Centre, Ethical Culture, and groups of Boy Scouts and Girl Scouts.

For older groups the Junior Naturalists Club, directed by Mr. Hans L. Stecher, became a new and successful feature of the year.

For adults opportunities for educational advancement were given in the lectures presented by the Institute and its affiliated societies, and by the intellectual intercourse provided by their meetings. The lectures were varied in character and embraced in part Chinese Art, Architecture, Photography, Chemistry, Engineering, Music, Literature, History, Travel, as well as Natural History in various aspects, popular and scientific. Among the speakers were George E. Ashby, Mabel Abbott, Charles F. Bopes, Mrs. Rudolph Binder, Ned J. Burns, Mrs. John H. Boesch, Grace Cornell, Howard Cleaves, I. C. G. Cooper, Alfred E. Cookman, William T. Davis, Carl Drucklieb, Cornelius Denslow, Robert Hagelstein, Col. Edwin A. Havers, William G. Hassler, Cornelius G. Kolff, John Koestner, Louis E. Jallade, Alice Lawrence, Loring McMillen, Lawton Mackall, Mrs. Thomas I. Miller, Mrs. Ralph W. Nauss,

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REPORT OF TREASURER

MAY 15, 1937

Balance last report	\$11,616.32
N. L. Britton Trust Fund, restricted	3,533.60
Donations for special purposes	1,169.00
Other receipts	2,263.05
	\$18,581.97

Paid account of loan	\$ 750.00
Paid account of salary, Mr. Stecher	234.00
Paid account of investment, Britton Fund	1,038.15
Paid account of printing, etc.	2,180.63
	\$ 4,202.78
Balance	
	\$14,379.19

TREASURY ASSETS AND LIABILITIES

MAY 15, 1937

Cash in Banks, including restricted funds	\$14,379.19
John J. Crooke Fund, restricted	2,000.00
D. M. Van Name Fund, restricted	100.00
Permanent Fund, restricted	2,989.99
Natural Science Fund, restricted	3,121.00
Real Estate, at assessed value, restricted	12,000.00
Bonds, Britton Fund, restricted	9,000.00
	\$43,590.18
Liabilities, \$5,600.	
City Appropriation for 1937	\$12,380.00

PUBLICATIONS OF THE INSTITUTE

1. PROCEEDINGS OF THE NATURAL SCIENCE ASSOCIATION OF STATEN ISLAND

These PROCEEDINGS were printed in octavo numbers, partly in leaflet and partly in pamphlet form, from November 10, 1883, to June 3, 1905, and are included in nine volumes, separately indexed.

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2. PROCEEDINGS OF THE STATEN ISLAND ASSOCIATION OF ARTS AND SCIENCES

These PROCEEDINGS are in 8vo parts, 4 parts to a volume except V. 7, which was issued complete in one part. They contain the scientific and other records of the meetings of the Association and consist of v. 1-7, June 1905-May 1918.

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VOL. 1, Oct. 1918-May 1922, p. 1-165, *pl.* 1-4. 1923.

VOL. 2, Oct. 1922-May 1924, p. 1-186. 1924. (Pt. 1, Special Issue.)

Special Issue, Jan. 1924. List of the Coleoptera of Staten Island, by Charles W. Leng and William T. Davis. 82 p. and index. Price \$1.25.

VOL. 3, Oct. 1924-May 1925, p. 1-154. 1926.

VOL. 4, Oct. 1925-May 1927, p. 1-138, *pl.* 1-4. 1928.

VOL. 5, Oct. 1927-May 1930, p. 1-205. 1930-1931.

VOL. 6, Oct. 1930-May 1932, p. 1-220, *pl.* 1-8. 1931-1933.

VOL. 7, Oct. 1932-May 1936, p. 1-164, *pl.* 1-4. and *map.* 1933-1935.

VOL. 8, Oct. 1934-May 1936, parts 1-2, p. 1-76, *pl.* 1-2. 1937.

Special Publication, Nov. 12, 1931. History of the Staten Island Institute of Arts and Sciences, prepared for Semi-Centennial Meeting; list of members included. 24 p. illus. Price 50 cts.

4. THE MUSEUM BULLETIN

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OF THE
STATEN ISLAND INSTITUTE
OF
ARTS AND SCIENCES

EDITED BY
CHARLES W. LENG, WILLIAM T. DAVIS
JOSEPH F. BURKE
PUBLICATION COMMITTEE

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Issued July 26, 1939
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PROCEEDINGS
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STATEN ISLAND INSTITUTE
OF
ARTS AND SCIENCES

VOLUME VIII

OCTOBER 1937—MAY 1938

EDITED BY
CHARLES W. LENG, WILLIAM T. DAVIS
JOSEPH F. BURKE
PUBLICATION COMMITTEE

PUBLISHED BY THE
STATEN ISLAND INSTITUTE OF ARTS AND SCIENCES
STATEN ISLAND, N. Y.

1939

THE SCIENCE PRESS PRINTING COMPANY
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PROCEEDINGS
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STATEN ISLAND INSTITUTE
OF
ARTS AND SCIENCES

VOL. 8

OCT. 1937-MAY 1938

PART 4

Crystallized Dolomite in Staten Island Serpentine

FREDERICK H. POUGH

Assistant Curator of Geology and Mineralogy, The American
Museum of Natural History

Through the kindness of Mr. Joseph F. Burke, who first discovered the microscopic crystals, and Mr. Carleton Siemer, who brought them to The American Museum of Natural History for identification, the writer has had an opportunity to study an interesting occurrence of dolomite. The crystals are of an uncommon, if not unique, habit and indicate unusual conditions of formation. The associated minerals are likewise interesting and worthy of study.

Excavational work on the west side of Pavilion Hill, St. George, in preparation for the erection of houses, uncovered more of the typical Staten Island serpentine. The waste rock was dumped on the east side of the hill, overlooking the harbor. In this large pile of loose rock, consisting almost entirely of serpentized ultra-basic, may be found many specimens containing narrow fissures and surfaces coated with a white clayey mineral, which has been found to be near the marmolite variety of serpentine. Minute but sharp octahedrons of magnetite, and numerous needles of dolomite are embedded in this.

is all replaced by later minerals; in others, primary serpentine is still abundant. The fresh serpentine is patchily distributed and a single thin section contains portions of slightly altered serpentine and portions in which all the serpentine is replaced. When fresh, the serpentine shows traces of the original minerals from which it formed in the outlines marked out by the streaks and dust of mag-

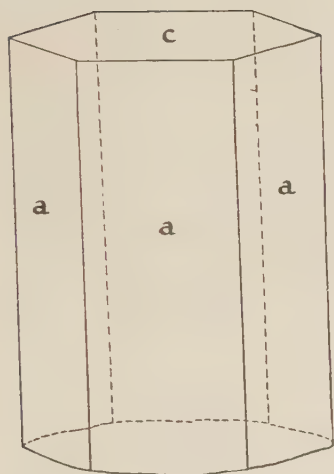
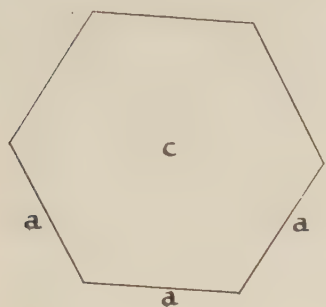


FIG. 1

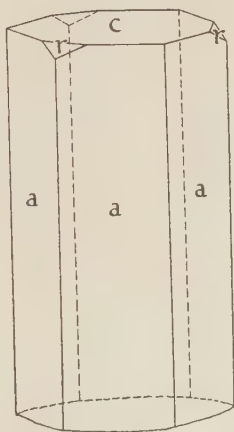
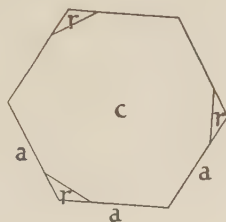


FIG. 2

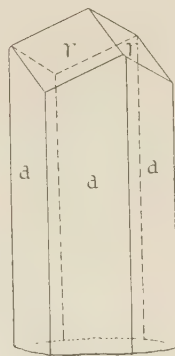
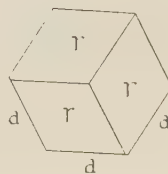


FIG. 3

netite, which indicate that the original rock was a peridotite. A few corroded grains of olivine were found embedded in some of the fresher serpentine. The subsequent history of the rock is of more interest, however.

There seems to have been a later attack by hydrothermal solutions which caused an alteration of the serpentine, "serpentine A,"

is all replaced by later minerals; in others, primary serpentine is still abundant. The fresh serpentine is patchily distributed and a single thin section contains portions of slightly altered serpentine and portions in which all the serpentine is replaced. When fresh, the serpentine shows traces of the original minerals from which it formed in the outlines marked out by the streaks and dust of mag-

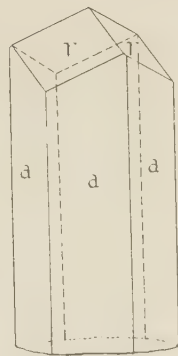
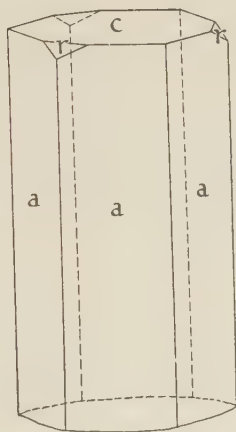
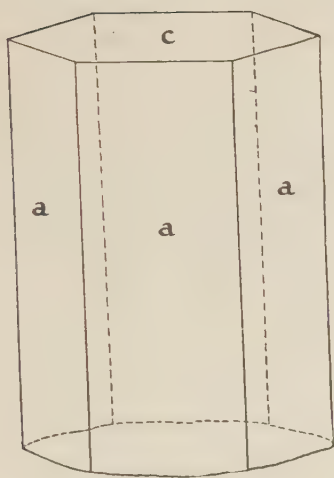
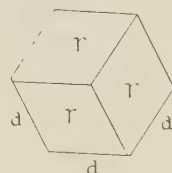
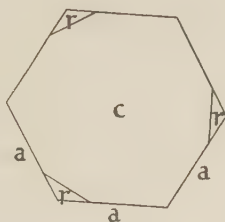
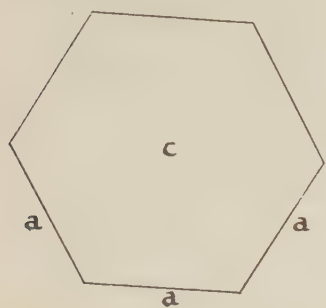


FIG. 1

FIG. 2

FIG. 3

netite, which indicate that the original rock was a peridotite. A few corroded grains of olivine were found embedded in some of the fresher serpentine. The subsequent history of the rock is of more interest, however.

There seems to have been a later attack by hydrothermal solutions which caused an alteration of the serpentine, "serpentine A."

to secondary minerals, as described by Hess.² It is known that there was, at one time, an exposure of intruded granite pegmatite not far away from this serpentine mass and this may well have been a source of acid solutions. The change has been one involving the replacement of the original serpentine by a later fibrous variety, and magnesite. Some portions of the rock show no remaining primary serpentine and in places there is little but magnesite. It is interesting that there should be so much magnesite in the rock itself while the carbonate mineral of the fissures is dolomite. No euhedral magnesite was seen though many large grains are visible in the rock. The later serpentine, "serpentine B," forms fibrous white masses in the rock, sometimes recognizable in the hand specimen, but usually so mixed with the other minerals that it can only be recognized in thin sections.

The thin green botryoidal coatings of serpentine C on fissure faces and on which the younger dolomite crystals have grown is fresh and unaltered. It appears to have been a later product of hydrothermal alteration. The magnetite dust, originally disseminated through serpentine A is totally removed in solution or pushed aside into trains between the serpentine B needles. There is a possibility of course, that these two serpentines, B and C, were simultaneous in formation, the one forming through replacement only and the other precipitating, perhaps as a colloid, from solution in place in the fissures. However, the complete lack of any evidence of replacement of C by B indicates that C came much later than the fibrous serpentine, and possibly after a period in which no changes of any consequence took place. It is represented by a wavy line in Fig. 6 as a gap in the mineral sequence.

The later solutions which deposited the botryoidal serpentine must have contained calcium as well, which combined with some of the released magnesia to form dolomite. The serpentine C forms 1 mm thick coatings over the surfaces of fissures, the top surfaces of which are botryoidal. Under the microscope it is seen to be sub-microscopically fibrous and to have a low birefringence. A slight banding is to be seen in the hand specimen. It appears to be fresh and unaltered and to contain no other minerals and no magnetite dust. It coats the fissures of the altered rock and is to be seen in

² Hess, Harry H. The problem of serpentinization and the origin of certain chrysotile asbestos, talc, and soapstone deposits. *Econ. Geol.*, Vol. 28, 1933, pp. 634-657.



FIG. 4



FIG. 5

places inclosing large crystals of the earliest dolomite. Just previous to this stage in the mineral sequence there must have been some fracturing of the rock accompanied by slight movements mainly cutting across the direction of the fibers noted in the hand specimen. The botryoidal serpentine and the dolomite were deposited in these fractures, which were eventually completely filled by the marmolite-like serpentine D. Immediately preceding this stage, however, there was further movement and a new set of fissures developed, intersecting those of the C stage. Fig. 4 shows such a fissure filled with white serpentine D and numerous hexagonal cross-sections of the later dolomite needles, cutting the botryoidal green serpentine. Fig. 5 shows crystals of dolomite growing on the C coating which have been exposed by weathering away of the white serpentine which originally filled the fissure and in which they are embedded.

The white serpentine filling the latest fissures is soft and compact. It fills veinlets up to 1 cm across at Pavilion Hill and varies from white to yellowish and greenish. Sharp, brilliant crystals of magnetite are scattered through it. Under the microscope the white mass is seen to be composed of a mass of minute crystalline plates, with a very low birefringence and so fine-grained that no optical characters are distinguishable, but an average index of 1.553 was obtained from the mass. An x-ray determination by Prof Paul F. Kerr gave a pattern similar to that of marmolite.

Along fissures in the rock, parallel to the structure of the fibrous serpentine and occasionally associated with a few small dolomite crystals, were films and thin crystals of a yellow-green mineral, which has all the properties of nepouite. A few plates showed the characteristic hexagonal outline and the basal cleavage gives a fine interference figure of a biaxial negative mineral with a small $2V$. Almost isotropic on this face, the average index of refraction is about 1.603, indicating an Ni:Mg ration of about 70:30. A fine nickel test, with no iron, was obtained by microchemical methods.

Magnetite shows two generations, the earlier being the irregular masses in the serpentine which are to be observed everywhere through the fresh serpentine of the thin sections. The second principal generation was formed during the stage of the marmolite formation, and the crystals are sharp and brilliant, though rarely more than 1 mm across. The octahedron is the dominant, and frequently

the only form, but the larger crystals show the cube as well. No other forms were observed.

The conditions under which the dolomite formed may be deduced from the associated minerals and the sequence of formation. As Hess³ and others have pointed out, the original peridotite probably changed to primary serpentine by a process of autometamorphism under steadily decreasing temperature. If Hess is correct, later solutions must then have permeated the rock to bring about the alteration which we now see. It is possible that the pegmatite formerly to be seen nearby was the source of acid solutions which altered the original serpentine to a fibrous type with a higher birefringence and formed abundant magnesite. The magnetite dust was pushed aside into trains between the fibers, or dissolved and immediately re-deposited there. Following this there must have been minor movements in which the rock was fractured and the composition of the solutions changed to introduce some calcium. Another generation of serpentine commenced to form simultaneously with coarse crystals of dolomite, many of which were coated with a botryoidal layer of the compact green colloidal-looking third generation of serpentine. Dolomite formation continued after this generation of serpentine, however, and the habit changed, doubtless with falling temperature. A fourth generation of serpentine, the white marmolite-like material formed simultaneously with, and subsequent to, the now rhombohedrally-terminated dolomite needles. This stage was preceded by more fracturing and slight displacement, many of the marmolite-dolomite veinlets cut across the third

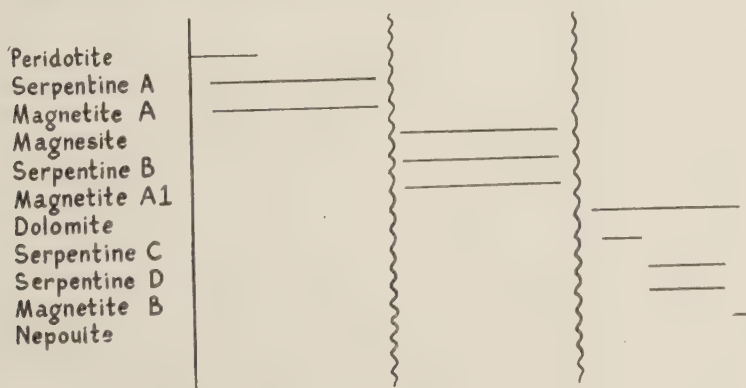


FIG. 6

³ Hess, Harry H., *Ibid.*

green serpentine at sharp angles; white veinlets in which sharp hexagonal prism cross-sections are abundantly scattered. Contemporaneous with the small dolomite crystals in fractures parallel to the structure, was the formation of the nepouite, the last mineral in this series. Fig. 6 shows in a graphic manner the probable mineral sequences. The solutions were certainly all hydrothermal, but probably all relatively far removed from their source and apparently incapable of forming much amphibole. The nickel of the nepouite surely originated from the primary rock and was concentrated only at this last stage. A further study of the mineralogy of some of the Staten Island serpentine will doubtless supply some of the paragenesis information now obscured by the paucity of outcrops on the Island.

Preliminary List of the Mycetozoa of Staten Island

ROBERT O'CONNOR

Existing records of Mycetozoa collected on Staten Island reveal that little has been done with this group. At a meeting of the Natural Science Association on March 10, 1894, Mr. Thomas Craig exhibited a living plasmodium, with no mention of the species. During the period from 1906 to 1908, Mr. William T. Davis collected *Arcyria denudata*, *Fuligo septica*, and *Stemonitis fusca*. The specimens have been examined and verified. On June 26, 1926, Dr. William H. Wiegmann gave a lecture before the Staten Island Nature Club on "The Classification and Characteristics of the Mycetozoa." Included among the specimens shown was one from Staten Island, collected at Kreischerville, November 12, 1917, by Mr. William T. Davis. This specimen has not been located. Mr. Robert Hagelstein supplied a short list of Staten Island species for inclusion in a proposed revision of Hollick's and Britton's "Flora of Staten Island." The following names have been taken from the manuscript: *Arcyria denudata*, *Fuligo septica* var. *rufa*, *Hemitrichia vesparium*, *Stemonitis fusca*, *Trichia favoginea* (*chrysosperma*), *Trichia persimilis*, and *Physarum polycephalum*. During the period from 1931 to 1933, Mr. Hans L. Stecher collected *Arcyria denudata*, *Didymium xanthopus*, *Arcyria cinerea*, and *Stemonitis fusca*. At the annual exhibition of the Staten Island Microscopical Society, on March 16, 1935, Dr. Wiegmann exhibited the following species collected on July 3, 1932, by Mr. Joseph F. Burke, at South Avenue. The specimens were identified by Dr. Wiegmann and verified by Mr. Hagelstein. *Arcyria denudata*, *Ceratiomyxa fruticulosa*, *Ceratiomyxa fruticulosa* var. *porioides*, *Cribraria dictydioides*, *Lycogala exiguum*, *Stemonitis fusca*, and *Stemonitis smithii*. Capt. Thomas I. Miller found the only specimen of *Arcyria stipata*.

In the summer of 1937 a comprehensive survey of the Mycetozoa of Staten Island was commenced in collaboration with Mr. Joseph F. Burke. Collecting was continued through 1937 and 1938. The collections made during that period have been carefully examined and classified, either by or under the supervision of Mr. Robert Hagelstein, Honorary Curator of Myxomycetes, New York Botanical Garden. The assistance and encouragement received from

Mr. Hagelstein have been of the utmost value in making accurate field observations and in the identifications.

The collections and records include 63 species and 7 varieties. They are incorporated in the following preliminary list of Staten Island Mycetozoa. Notes have been based upon field observations and upon personal correspondence with Mr. Hagelstein.

The specimens are in the Herbarium of the Staten Island Institute of Arts and Sciences. The duplicate material, of which there is a fairly large amount, is available for exchange.

1. ARCYRIA Wiggers

1. *Arcyria cinerea* (Bull.) Pers.

Var. *digitata* (Schw.) G. Lister.

2. *Arcyria denudata* (L.) Wettst.

3. *Arcyria magna* Rex. A single collection of this rarely reported species was made on wood, early in the collecting season of 1938.

4. *Arcyria nutans* (Bull.) Grev.

5. *Arcyria stipata* (Schw.) Lister.

2. BREFELDIA Rost.

1. *Brefeldia maxima* (Fries) Rost. The dark, purplish aethalia develop into rather large bodies, each one possessing a fragile peridium which readily breaks, after it has dried, permitting the spores to disperse and leaving nothing but the hypothallus. The one specimen was originally on wood but has since become detached.

3. CERATIOMYXA Schröt.

1. *Ceratiomyxa fruticulosa* (Müll.) Macbr.

Var. *flexuosa* Lister.

Var. *porioides* (Alb. & Schw.) Schröt.

4. CLASTODERMA Blytt

1. *Clastoderma debaryanum* Blytt.

5. COMATRICHA Preuss

1. *Comatricha nigra* (Pers.) Schröt.

2. *Comatricha subcaespitosa* Peck. An interesting species, with an appearance similar to *C. pulchella* var. *gracilis*. When first examined it was identified as *gracilis* but upon submitting it to Mr. Hagelstein for verification it was changed to *Comatricha subcaes-*

pitosa. One large development was found in October. The fruiting was spread over sweet-gum burrs, twigs, leaves and fungi.

3. *Comatricha typhoides* (Bull.) Rost.

6. CRIBRARIA Pers.

1. *Cribraria argillacea* Pers.

2. *Cribraria dictydioides* Cooke & Balf.

3. *Cribraria intricata* Schrad.

4. *Cribraria languescens* Rex.

5. *Cribraria microcarpa* (Schrad.) Pers.

6. *Cribraria piriformis* Schrad. Three separate collections were made in the same locality. None of the material is typical, being intermediate between the species and the var. *notabilis*.

Var. *notabilis* Rex. Mr. Hagelstein says of the specimens, "I believe all are *C. piriformis* var. *notabilis* and my opinion is strengthened by a specimen which has the bases of the sporangia flattened. The color generally is not dark enough but there are some dark ones. All the specimens are alike, even the long stalked one which I have called *C. languescens* and which is like some that [Dr. W. C.] Sturgis determined but may only be a long stalked phase. They are not in the *intricata-tenella* group but in the *vulgaris-piriformis* one with varieties *aurantiaca* and *notabilis* connecting. They are not *vulgaris* which has flattened nodes and I do not think that they are var. *aurantiaca*. Spore color is an uncertain character as it alters rapidly."

7. *Cribraria tenella* Schrad.

8. *Cribraria vulgaris* Schrad.

7. DIACHEA Fries

1. *Diachea leucopodia* (Bull.) Rost.

8. DICTYDIUM Schrad.

1. *Dictydium cancellatum* (Batsch.) Macbr.

Var. *fuscum* Lister.

9. DIDERMA Pers.

1. *Diderma effusum* (Schw.) Morg.

2. *Diderma testaceum* (Schrad.) Pers.

10. DIDYMIUM Schrad.

1. *Didymium squamulosum* (Alb. & Schw.) Fries.
2. *Didymium xanthopus* (Ditmar) Fries.

11. ENERTHENEMA Bowman

1. *Enerthenema papillatum* (Pers.) Rost.

12. ENTERIDIUM Ehrenb.

1. *Enteridium rozeanum* Wingate.

13. FULIGO Haller

1. *Fuligo cinerea* (Schw.) Morg.
2. *Fuligo septica* (L.) Weber.

14. HEMITRICHIA Rost.

1. *Hemitrichia clavata* (Pers.) Rost. Found in the fall on logs different from those on which *H. stipitata* had been collected in the summer.

2. *Hemitrichia stipitata* (Masse) Macbr. Collected during the summer. Associated with *H. clavata* by some authors.

3. *Hemitrichia vesparium* (Batsch) Macbr.

15. LAMPRODERMA Rost.

1. *Lamproderma arcyrionema* Rost.

16. LEOCARPUS Link

1. *Leocarpus fragilis* (Dicks.) Rost.

17. LINDBLADIA Fries

1. *Lindbladia effusa* (Ehrenb.) Rost.

18. LYCOGALA Adanson

1. *Lycogala epidendrum* (L.) Fries.
2. *Lycogala exiguum* Morg.
3. *Lycogala flavofuscum* (Ehrenb.) Rost. Collected on January 8, 1938, by William T. Davis. Aethelium on wood. Largest species of the genus and not common. May be mistaken for a puffball owing to similarity of appearance, but the hypothallus distinguishes it as a slime-mould.

19. OLIGONEMA Rost.

1. *Oligonema flavidum* Peck.
2. *Oligonema nitens* (Lib.) Rost.

20. PERICHAENA Fries

1. *Perichaena depressa* Lib. Most of the collections are typical. Some, however, have the lids heavily charged with white lime.

21. PHYSARELLA Peck

1. *Physarella oblonga* (Berk. & Curt.) Morg. The fruiting bodies of this species have not been collected under natural conditions. The plasmodium was collected by Ruth Needham Nauss and fruited in her laboratory. Several fine developments have been obtained in this manner.

22. PHYSARUM Pers.

1. *Physarum cinereum* (Batsch.) Pers.
2. *Physarum globuliferum* (Bull.) Pers.
3. *Physarum murinum* Lister.
4. *Physarum nucleatum* Rex. A single collection was made on twigs. Part of the material had the capillitiums free from spores, exposing the central ball of lime from which it derives its name.
5. *Physarum nutans* Pers.
6. *Physarum penetrale* Rex. Several fruitings of this species were collected. The specimens are typical, being easily recognized by the pale yellowish, greenish, or grayish, ellipsoid sporangia arising from red translucent stalks, the continuation of which extend nearly to the apices of the sporangia. All the material is on wood.
7. *Physarum polycephalum* Schw. This species was collected on three occasions during the fall of 1937. The fruitings were large and spread over a considerable area surrounding the place where the plasmodium emerged. When collected the newly developed sporangia are lead colored, but if the spores are blown out become a yellowish-green. If the sporangia are left in the field, the latter color changes to gray. Fruitings were on poison-ivy, jewel weed, leaves and twigs.

Var. *obrusseum* (Berk. & Curt.) Lister.

8. *Physarum tenerum* Rex. In most of the gatherings the sporangia are almost white, but possess the yellow, globose lime knots.

Several fruitings have the deep yellow sporangia and long stalks of the typical form.

9. *Physarum viride* (Bull.) Pers.
Var. *incanum* Lister.

23. RETICULARIA Bull.

1. *Reticularia lycoperdon* Bull. A monotypic genus, related to *Enteridium*, and difficult to distinguish therefrom by external appearance. Aethalia, varying in size, were found on red maple in the rear of 146 Stuyvesant Place.

24. STEMONITIS Gled.

1. *Stemonitis fenestrata* Macbr. A comparatively small collection of this species was made in the rear of 146 Stuyvesant Place. MacBride considers this a distinct species, but Hagelstein and Lister regard it as a form of *S. splendens*. Collected on wood.

2. *Stemonitis fusca* Roth.
3. *Stemonitis herbatica* Peck.
4. *Stemonitis pallida* Wingate.
5. *Stemonitis smithii* Macbr.
6. *Stemonitis splendens* Rost.

7. *Stemonitis trechispora* Macbr. Three separate fruitings were collected close to the edge of the water of a stagnant pond in the Oakwood-Richmond Woods. Plasmodia in fruiting spread, as they come from the ground, over loose twigs, leaves and stones.

25. TRICHIA Haller

1. *Trichia favoginea* (Batsch.) Pers.
2. *Trichia persimilis* Karst.
3. *Trichia varia* Pers.

26. TUBIFERA Gmel.

1. *Tubifera ferruginosa* (Batsch.) Gmel.

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The Least Weasel on Staten Island, N. Y.

PETER E. CROWE

On March 8, 1938, a specimen of the least weasel, *Mustela c. cicognani* Bonaparte, was found dead in the open fields between New Dorp and Oakwood Heights. The specimen had been dead for some time, but the skeleton was sufficiently intact to be mounted, although the ribs were lost or broken for the most part. Dr. John Eric Hill, of the American Museum of Natural History, inspected the specimen and confirmed its identification, adding that it was about three or four years old at the time of its death, as evidenced by the worn condition of the teeth.

The only previous mention of this species in connection with Staten Island was made by Mr. Wm. T. Davis ("Proceedings of the Natural Science Association," August 1885), who observed a least weasel climbing a tree, but since the specimen was not collected, positive identification could not be made. Other records might well have applied to *M. c. cicognani*, but since identifications were not made, they might also have been *Mustela n. noveboracensis* (Emmons), another weasel found on Staten Island, which is often confused with its smaller relative.

As the least weasel is not found to the south of Staten Island, this locality probably represents the southern limit of its range.

The mounted skeleton has been added to the collection of the Staten Island Institute of Arts and Sciences.

Cast Snakes' Skins for Use in Lantern Slides

HANS L. STECHER

The cast skin of a snake may be made to serve as a lantern slide when properly prepared. The skin should be left in a weak solution of formalin (1:20) for some time, perhaps over night. This preparation softens the dry skin and prevents attack by destructive insects and mould. If the skin of a large snake is used, which covers the entire surface of the slide, two plain cover glasses may be used, between which the skin is mounted. A mask will aid in the uniformity of the lantern slide. In the case of a smaller skin, or a part of one, one of the glasses may be ground in order to prevent glare on the open parts when projected on the screen. As soon as the still slightly moist skin has been placed upon one of the glass slides and covered with another, the two sides may be sealed with strips of lantern slide binding tape, leaving the other two sides open. This will allow the remaining moisture to escape. Thus the skin is firmly held in place while it is being dried. To hasten the drying the slide may be placed over a heater or near a lighted electric bulb. Care is necessary. When dry, the remaining two sides of the slide should be sealed with binding tape and it is then ready for use.

Beautiful transparencies are thus obtained which show well on the screen. The under side of the skin showing the broad scutae may be exhibited or, perhaps, the smaller upper scales. In another slide one may see the upper front portion of the snake's skin which includes the scales covering the eyes. A section of the shed skin taken from a smaller species may be used to show the upper as well as the lower part side by side, by cutting along one of the sides before mounting. Cast skins of various species may thus be utilized for comparative studies. Keeled scales on the skin also show to advantage.

The same process may be applied to the skins of lizards, including that of the Gila Monster. In turtles the plates should first be softened in boiling water, then flattened under pressure before mounting. However, snake skins offer the widest range for an interesting skin slide collection.

Epsomite on Staten Island

ROBERT B. McCULLOCH

The occurrence on Staten Island of Epsomite has for some time been suspected, but never definitely recorded. The mineral appears as a delicate white fibrous efflorescence or earthy crust with a characteristic bitter taste.

A piece was collected in 1937 on Albert St., off Little Clove Rd. Mr. Carlton Beil, to whom I showed it, suggested that the specimen was naturally occurring epsom salt, and observed that he had seen similar material present locally, particularly near Moravian Cemetery.

A search of the records failed to reveal any mention of Epsomite on Staten Island, nor was it included in "The Minerals of New York City and Its Environs," by James G. Manchester, published in 1931.

For the purpose of identification, qualitative chemical analysis was used, and the findings were confirmed optically by Dr. Frederick H. Pough, of the American Museum of Natural History.

At the place where the Epsomite occurs most abundantly on Albert St., the street has been cut through material consisting of loose soil and weathered serpentine, leaving a high bank. After wet weather, the mineral will be found near the top of the bank where it is protected by the overhang, projecting from a bit of serpentine in masses of fibers sometimes an inch in length.

Similar conditions obtain in many places on Staten Island, and were it not for its inconspicuous appearance and perishable nature, Epsomite might be recognized as a common local mineral.

Natural History Records from the Meetings of the Staten Island Nature Club.¹

WILLIAM T. DAVIS

The meeting of Friday, September 24, 1937, was held in the Public Museum.

Mr. Charles W. Leng spoke of the collection of *Myxomycetes* made as the result of the efforts of Mr. Robert Hagelstein, Mr. Burke, Mr. O'Connor and others, as a distinct advance in our knowledge of Staten Island Natural History. In this connection he exhibited a recent addition to the library: "A Monograph of the Mycetozoa," by Arthur Lister.

A paragraph in Museum News announcing the appointment of Mrs. Eva R. Bonney as Educational Assistant was mentioned, and Mr. Leng stated that the Children's Room would be available to young people visiting the Museum. A copy of the program for October, as tentatively planned by Mrs. Bonney, was shown.

Mr. George B. Wilmott exhibited specimens of salamanders collected by him this summer in the Great Smokies of Tennessee. Live and preserved specimens of *Plethodon jordani* (Blatchley), and *Desmognathus wrighti* (King), collected on Clingman's Dome, July 25, 1937, at an altitude of 6,600 feet were shown, also specimens of *Desmognathus wrighti* collected on Mt. Mitchell, N. C., at an altitude of 6,700 feet, June 23, 1937. The latter were collected by Hans L. Stecher.

Mrs. Gladys H. Wilmott told of her experiences collecting plants in the Gaspé Peninsula, Canada, and showed examples of the Green Spleenwort from Sainte Anne des Monts.

Mr. Wm. T. Davis stated that he had learned from Mr. Carlton Beil that the true Katydid, *Pterophylla camellifolia*, had been heard singing on the westerly side of the Clove Road, West New Brighton. On the evening of September 1, in company with Mr. Stecher, he had located the elms occupied by the insects at 200 Clove Road, back of the home of Vincent Boschi, and heard about six males singing. In 1921 a few of these Katydidids were heard singing along the northerly boundary of the Moravian Cemetery, as recorded at the meet-

¹ These records have been compiled largely from the minutes of the club, Hans L. Stecher, Secretary.

ing of the Nature Club held September 30, 1921. The large Angle-winged Katydid is still to be found in many localities on the Island, two having been discovered this summer at 146 Stuyvesant Place, St. George. Many other species of Orthoptera recorded in the New York State List, are either extinct on the Island, or are now very rare.

A Flicker had visited a nearly dead White Maple at 146 Stuyvesant Place, close to the Court House at St. George, many times during the summer, and had been industrious in insect hunting. The Black and White Creeping Warblers had appeared there as early as August 8, several being seen at later dates.

Mr. Davis showed a photograph of the eggs of a Kill-deer Plover found May 31, 1937, among the grave-stones in the cemetery of the Old Yellow Meeting House, near Red Valley, New Jersey. Also a photograph taken the same day of a Mourning Dove's nest found at Jackson's Mills, New Jersey. This nest was about 5 feet from the ground and placed in the usual position on some horizontal or nearly horizontal fallen timber. Sometimes the Mourning Dove places its nest on the ground. A photograph of such a nest made of pine needles, found to the west of Matawan, New Jersey, April 2, 1911, was also shown. Rough-winged Swallows had at least two nests this summer, in the cliff near the Billopp House at Tottenville.

As noted in the September issue of the Museum Bulletin, fresh-water Jellyfish were found for the fifth consecutive year in Brady's Pond at Grasmere. Specimens collected in the latter part of July by the Grimes family, Mr. Warren Condit and Mr. Davis were on exhibition in the Museum for about a month, living until August 29. They are not molested by small fish and did well in some of the aquaria under the care of Mr. Stecher. On August 29, Miss Jane De Puy, who had examined the Jellyfish from Staten Island exhibited in the Museum, found them abundant in a part of Cranberry Lake, quite a large lake in Sussex County, New Jersey, and brought a considerable number to the Museum [Miss De Puy found Jellyfish in Cranberry Lake as late as September 26, 1937].

Portions of a letter from Mr. Roy Latham, dated Orient, Long Island, September 10, 1937, were read. Regarding Cicadas: "We have had an unusual number of *Tibicen lyriceus* in Orient this season. This is the most common and general cicada we have in Orient, and the species are found in the orchards, lawn trees and cultivated sections of the farms. I have seen and heard many of them in the

Orient village streets and around the trees in our yards and lawns. They appear as early as the last days in June, and are the first ones to be heard—weeks before the other species. I saw a specimen of *Tibicen auletes* in Cutchogue on August 28 at hardly more than arm's length away, but failed to capture the creature. *Tibicen canicularis* appeared August 8 on Long Beach, Orient, and in about the usual numbers, and is still heard on warm days. It is common every year, but only once in the great numbers that I wrote to you about on one occasion. I am still watching every year to notice any change in their abundance. The colony on the cedar hill northeast of Riverhead, near the sound, at Sound Avenue, is also common every year, but I notice no increase or decrease from year to year. On September 10, 1937, I made a trip along the south side of the Peconic River between Riverhead and Calverton and saw and heard many of this species, probably 200 or more, in the dead pine trees, but had my usual no luck in collecting them for you. . . . We had the Egrets as regular summer visitants this season and I saw one in early May and through the breeding season, but did not find any nest. Upland Plover have been around all summer also, and probably nested on this end of Long Island. A pair of Sparrow Hawks brought out a brood of four young on our lawn in June. Saw a Willet on the farm today, and a Migrant Shrike. A friend of mine caught two record size White Perch in Great Pond north of Southold last week, each fish being the same size, 17 inches in total length and weighing two and one half pounds."

The rarely seen Short-billed Marsh Wren was reported along a stretch of lane between Wolfe's Pond and the Richmond Memorial Hospital, by Mr. Howard Cleaves. Mr. Cleaves also noted the continued residence of the Cooper's Hawks in the woods near Sandy Brook. A visit to Roy Latham at Orient, Long Island, was also referred to by Mr. Cleaves.

The meeting of Saturday, October 23, 1937, was held in the Public Museum.

Following a suggestion from the garden page of the *Herald Tribune*, Mrs. J. B. Trench and Miss Katharine Seaman succeeded in keeping the colors of the leaves on a branch from a huckleberry bush red for over a month, by first putting it in glycerine and adding water from time to time.

Mr. Peter Crowe reported that he had recently noted a decided

increase of *Blarina brevicauda* on Staten Island especially in Oakwood Heights and its vicinity. In one week's collecting about eight specimens of *Blarina* were taken. This record is higher than in either 1935 or 1936. *Blarina* are probably the most common of the Staten Island mammals. This is due to the fact that they are able to adapt themselves to their environment much better than most other species. They are found living in the fields with the meadow mice, *Microtus pennsylvanicus*, and in the woods with the deer mice, *Peromyscus leucopus noveboracensis*. They are often caught in the runways or burrows of the two latter mentioned species. Mr. Leng suggested that the recent increase of Japanese beetles might have something to do with *Blarina's* increase. As *Blarina* burrows beneath the leaf mould the larvae would doubtless constitute part of its diet. *Blarina* devours many insects and deserves protection.

The delay in the fall coloring of the trees had been observed by several members, particularly Mr. I. C. G. Cooper, who thought that the turning of the leaves was at least two weeks later this season.

Mr. Joseph F. Burke, as speaker of the evening, talked on shore-collecting, with special reference to the collecting possibilities on Staten Island. The Island, Mr. Burke emphasized, is still rich in material of marine fauna and flora, and furnishes many possibilities for profitable investigation. A great amount of work awaits the investigator of microscopic forms. Books in relation to the subject were on display for inspection.

Mr. Wm. T. Davis stated that in some localities along the shore of Staten Island many sea-weeds grew too fast for their own safety, and actually suffered from too much prosperity. The plants grew larger and longer, and finally lifted the small stones or sea-shells to which they were attached, and were washed ashore in consequence. Twelve examples were shown, and in several instances the sea-weeds had grown on living *Crepidulas*, which in turn were attached to the stones. Thus by their rapid growth, the sea-weeds caused the death of the mollusks as well as their own.

Mr. Davis showed 23 species of the larger crustaceans to be found on the Island and in New Jersey, including 3 species of Crayfish, a like number of Fiddler crabs, as well as the Oyster crab and the Mussel crab. He had found small Ghost crabs on Long Island, and fully grown ones along the New Jersey coast, but had not collected the species on Staten Island. He showed numerous examples of

the Spider crab, *Libinia emarginata* from the Island, and a number of the closely related *Libinia dubia* from southern New Jersey.

Since the September meeting of the Nature Club, Miss Jane De Puy had collected additional specimens of Jellyfish in Cranberry Lake, Sussex County, New Jersey, finding them as late as September 26th.

At the close of the meeting, Mr. Davis served tea made from the dried leaves and flowers of the golden rod, *Solidago odora*, which is also called Blue Mountain tea. The plant is common on some of the drier parts of the Island and the tea made therefrom is pleasant and agreeable.

The meeting of Saturday, November 27, 1937, was held in the Public Museum.

Mr. Charles W. Leng remarked on the large tanks known as "Oceans in Miniature" now under construction 18 miles south of St. Augustine, Florida. One tank is 100 feet long and 18 feet deep; another is 75 feet in diameter and 11 feet deep. Through glass port holes in the sides and bottoms of the tanks visitors can watch the fish and photograph submarine scenes.

Mr. John Rader reported the finding of an Indian hammer-stone near the Billopp House, on September 11, 1937. He had presented the implement to the Institute.

Mr. George B. Wilmott stated that he had lately observed a Cardinal at Willowbrook Park and showed an excellent photograph of a Gannet with young, taken while he and Mrs. Wilmott were on the Gaspé Peninsula last summer.

A number of Whip-tail fly maggots were exhibited, in a small jar, by Mr. I. C. G. Cooper, who had found them in an outdoor fish-pool near his home on Bidwell Avenue.

Mr. Wm. T. Davis showed a copy of the new edition of his "Days Afield on Staten Island," recently published. The first edition appeared in 1892, and has long been out of print. He also showed the recently published edition of: "The Birds of America," by John J. Audubon, containing 500 reproductions of his now historical paintings of many species.

Mr. Davis described the pleasant walk of the Bird Club, in spite of occasional showers, on November 13, when the Woods of Arden grounds at Eltingville were visited, and the large Cedars of Lebanon and the Ginkgo trees planted probably about 75 years ago by Fred-

erick Law Olmsted, were examined. There are numerous cones on the Cedars of Lebanon this year—some years the trees are without cones. The old lane through the woods from the Amboy Road to the house, about three quarters of a mile in length, was also described. A peeper frog was found along the lane, and another was heard singing.

On October 25, Mr. Davis had found a black snake, about 4 feet long, in the woods near the lane, and he remarked that the yellow pines, once rather common in the vicinity, were now nearly all gone. As Staten Island is the northern limit of this tree, some of the native stock should be preserved.

Mr. Davis showed several living female cockroaches, *Panchlora cubensis*, bright green in color, and now about 14 months old. Their mother was also shown. She died about December 15, 1936. She was imported to the Island among vegetables or tropical fruit several months before, and many of her small and brown colored grandchildren are doing well. At the last moult they become winged and all green in color.

Mrs. Gladys Wilmott gave a highly appreciated account of bogs and bog plants, showing living specimens of certain insectivorous plants, such as sundew, pitcher plant, and Venus' fly-trap. A series of colored lantern slides also illustrated the interesting flora of "bogland."

Mr. Hans L. Stecher exhibited a living Tarantula received on December 5, 1930, from Miss Gladys Hotaling, now Mrs. G. B. Wilmott. In the course of the years the spider has become so tame that Mr. Stecher handles it freely. It is frequently shown on the occasion of talks to school children, or to other interested groups. This Arachnid seems to thrive well on mealworms during the winter months, while in summer the diet is improved by feeding various kinds of insects, such as crickets, grasshoppers, caterpillars, cicadas, etc., the preferred food, cockroaches, being rather difficult to obtain. Mr. Stecher also showed a Black Widow spider that he had received on November 27, 1937, from Mr. Alexander Emps, of Grasmere, a locality from which he had secured material in former years, these spiders being usually found in stone piles.

The meeting of Wednesday, December 22, 1937, was held in the Public Museum.

Mr. Peter Crowe reported that he had discovered at Arlington a colony of house mice near a small stream amongst heavy weed

growth with no underbrush or trees present and in an area with no human habitations near. The mice had runways. Norway rats were also found in the same locality, but no native mice were collected.

Mr. Carlton Beil stated that while at the New Springville Park Bird Sanctuary on December 4, 1937, he had seen numerous Chickadees, Fox Sparrow, Downy Woodpecker, White-throated Sparrows, Juncos, and three Cardinals. In the Moravian Cemetery on December 11, where there is also a feeding station, he had seen both a Red Breasted and a White Breasted Nuthatch and a flock of Goldfinches.

Miss Emilie O. Long had observed in a recent issue of the Nature Magazine pictures of Snapdragon seeds which viewed at a certain angle were quaintly suggestive of human faces. She showed some of the seeds from her garden by way of illustration.

Captain Thomas I. Miller reported a pair of Cardinals as winter visitors to his garden at Annadale, and stated that a Mourning Dove had been present earlier in the season.

Mr. Carlton Beil showed an excellent picture of the Red Salamander, using a Dufaycolor film as a lantern slide.

Mrs. George B. Wilmott showed three reels of motion pictures, each dealing with some phase of water life and activities. Amphibians, water insects and many microscopic forms were shown, with explanatory remarks by both Mr. and Mrs. Wilmott.

Mr. Wm. T. Davis called attention to the article by C. M. Breder, Jr., in the Bulletin of the New York Zoological Society, Vol. XL, pp. 182-186, on the known distribution of the fresh-water Jellyfish in North America. References to the literature from 1885 to 1937 are given, and the fact that Jellyfish have been recorded from Brady's pond, Staten Island, for five successive years, is mentioned.

An illustrated pamphlet of 62 pages on "Noteworthy Trees of New Jersey," recently published by the State Department of Conservation, was also shown. It describes thirty aged trees, of which fifteen are white oaks. The Harrison white oak in Burlington County, 24.8 feet in circumference, is supposed to be the largest tree in New Jersey. The Bartram oak on the Levis property, Mt. Holly, 15.1 feet in circumference, is stated to be: "possibly the only representative of this species to be found in New Jersey at the present time." This statement should, however, be amended, for

there are Bartram oaks at Cliffwood near Keyport, New Jersey, and still others near South Amboy. The tree is usually considered a hybrid between the willow oak and red oak, or possibly the scarlet oak. It is native to Staten Island, and is to be found in two localities near Richmond Valley. The Bartram oak in the Clove Lakes Park, grown from an acorn from a native Staten Island tree, planted October 27th, 1888, is now over five feet in circumference.

Mr. Roy Latham, of Orient, Long Island, stated in a letter of December 1, 1937, as follows: "We are having a flight of Snowy Owls on eastern Long Island this season. Twelve of them were seen in Orient in one day this week, apparently the largest flight southward since the great flight of 1926. The birds are frightfully thin. Food evidently is the cause of this flight from the north, as was the cause in 1926. Four of the owls have been killed by shooters, I am sorry to report, and a couple of them given to me.

"The easterly storm of a week ago brought in a small flight of Dovekies, and three were found on our beach, two dead. During the big storm of last Sunday night a large weeping willow tree in a friend's yard crashed to the ground. The next morning a Screech Owl was found crushed in its burrow in a rotten branch."

Mr. Latham kindly donated the two Snowy Owls that had been given to him to our Museum, and the skins have been prepared by Mr. Beil and Mr. Peter Crowe.

Mr. Davis showed five walking stick insects, *Diapheromera femorata* Say, from Orient, Long Island. Mr. Latham states that this "insect is fairly common in our wood lot at the foot of the farm near the bay, but does not appear to spread to other woods in Orient." The species has been previously collected at Orient and on Shelter Island, but has not been found on the western end of Long Island, or on Staten Island, where *Manomera atlantica* Davis occurs. This species was described in 1923, and so far no males have been recorded. It is known from Massachusetts to Virginia near the coast.

Mr. Davis also showed a male and a female *Dasyneutilla occidentalis* L., our largest "velvet ant," the wingless female being remarkable for her conspicuous coloring of red and black, and for her formidable sting. The specimens were collected in the Fort Wadsworth reservation, July 31, 1937. While other specimens of this conspicuous insect have been found at Fort Wadsworth, it has not been reported from elsewhere on Staten Island.

This being the Christmas meeting of the Nature Club, the illustrated "Uncle Toby" books, prepared each year from 1923 on excepting 1935 and 1936, by Mr. Adolph W. Callisen, were shown. Although no longer in good health, Mr. Callisen prepared the 13th book for this meeting, entitled: "Harry Cobus and the Shang-hais, a Rural Tale of Staten Island."

The meeting of Saturday, January 22, 1938, was held in the Public Museum.

Mr. Charles W. Leng showed the galley proof of the next Proceedings of the Institute and commented upon the local natural history records to be published.

Mrs. G. B. Wilmott exhibited a number of Fairy Shrimp, which she had procured from a dealer, and explained that at one time these beautiful crustaceans were collected on the Island as recorded in our Proceedings.

Mr. Carlton Beil showed a plaster cast of tracks of White-footed mice made in fine sand under the overhanging root of a tree. He stated that on a recent walk with children from the Museum, they observed the interesting "freezing" of a rabbit, while it was being hunted by a man accompanied by his dog.

Dr. William H. Wiegmann spoke of the song of the Wood Pewee and other flycatchers as quite pleasing and interesting. He compared certain phases of the songs of these birds to parts that Wagner employed in Lohengrin. Beethoven, it is said, made use of the song of the nightingale in one of his compositions. Other birds served in similar ways. The Wood Pewee in former years nested in Van Cortland Park. The lichen once growing there, however, has disappeared and thus inconvenienced these birds in their nest-building. Particularly the leafy kind of lichen, *Parmelia saxatilis*, is used by the Pewee. The disappearance of this material for nest building seems to account for the absence of these birds from Van Cortland Park. For the same reason the Wood Pewee appears to have left Staten Island and no nest of the species has been found for a number of years.

Mr. Wm. T. Davis showed a finely developed fasciated stem from an Ailanthus tree about five feet high, found growing on the made ground near the docks at Tompkinsville on December 5, 1937. Some of the stems in part were three inches broad, and consisted of three or four lesser stems grown together. He attributed

the fasciated condition to the stem having been cut off or injured about the time the plant commenced to grow vigorously in the spring of 1937.* He also showed the plum-like fruit of a large Ginkgo tree growing in the old De Kay-Gilder place, corner of Davis Avenue and De Kay Street, West New Brighton. Fruit bearing or pistillate Ginkgo trees are uncommon on the Island.

Lately two officials of the Department of Water Supply, Manhattan, called at the Museum, in quest of information concerning the frequent visits of sea gulls to the Silver Lake Reservoir. These visits were first noticed in 1917, and recorded in: "Observations on Herring Gulls at the New Silver Lake Reservoir." Pro. Staten Island Association of Arts and Sciences, Vol. ii, pp. 58-59. Efforts to frighten the birds away from the southerly section of the reservoir, where they generally congregate has been unsuccessful, and it is now proposed to stretch wires across that area. This plan has met with success in some reservoirs in California. If the gulls are successfully frightened away from the Southern Reservoir, they will likely congregate on the Northerly one, unless that is likewise protected.

Mr. Davis read portions of a letter from Mr. Roy Latham of Orient, Long Island, dated January 1, 1938, containing the following observations: "Yesterday we had a Mocking bird in the garden, and the day before a Migrant Shrike, and with it a Northern Shrike. It is the first time I ever saw the two species of Shrike together, and it is unusual to see the Migrant in winter on Long Island. However, I do believe the two species are more or less confused here in winter, and they are not always readily determined in the field. The Migrant Shrike I saw had a house mouse, while it had left another a few minutes before, half-eaten, on the spine of a locust tree. This recalls one December day in 1917 while we were husking a field of corn. A shrike would perch on a nearby stack and each time a stack was pulled over several field mice would run out and the shrike would swoop down and pick one up and carry it to a locust tree in the hedge border. The bird was always back in time for the next stack to be pulled over. The bird was exceedingly tame and watched the stacks all through the day. At present birds are rather scarce in the Orient region. A Flicker, Robin, Yellow Palm

* See: "Fasciation in *Rhus glabra* and *Ailanthus glandulosus*." Pro. Nat. Sci. Assn. of Staten Island, December 11, 1886.

Warbler, Screech Owl, Long-eared Owl, one each, are present in the yard beside the shrikes and mocking bird mentioned above."

In: "Blue Jays and Audubon Copper Plates," by Dr. Charles W. Goodwin, published in the Proceedings of the Institute, reference is made to the fact that in: "The Birds of New England and Adjacent States," by Edward A. Samuels, Audubon's plate 102 on the Blue Jay is copied. Except for minor details and the reversing of the figures, that is having the birds face in the opposite direction from what they do in the Audubon plate, they are much alike. In Samuels' work, the plate is not colored. A later edition: "Our Northern and Eastern Birds," by Edward A. Samuels, appeared in 1883, and an examination of the book shows that at least twenty of the full page illustrations are copied from Audubon, but have the details reversed, also with some leaves or even a bird omitted. No wonder that the ornithologist Herbert K. Job remarked to Dr. Goodwin concerning plate 102, that: "They were merry old robbers in those days."

The meeting of February 26, 1938, was held in the Public Museum.

Dr. Wm. H. Wiegmann remarked on the accidents causing the death of many birds as well as some natural causes, and exhibited numerous specimens by way of illustration. A Ruby-throated Hummingbird had struck one of the buildings at Wanamaker's store at 9th street, and was found dead. A Wilson's Snipe killed by a hawk in Van Cortland Park, the feathers being the only remains. A Holboell's Grebe found with bullet wounds. The remains of Snowflakes captured by a Duck Hawk were found at Manhattan Beach. A Scarlet Tanager, like many other birds, met death under the wheels of an automobile. A different tragic end had overtaken a Dovekie at Coney Island. Its feathers becoming oil soaked from the surrounding waters, it had starved to death. A Chickadee was discovered dead in the Hemlock Forest in Bronx Park, apparently from hitting one of the tree trunks. Dr. Wiegmann stated that the numerous causes of death among birds was of much interest.

Mr. Wm. T. Davis showed several herbarium specimens of the Hop-bush or Hop-tree, *Ptelea trifoliata*, collected in the years 1888, 1893, and 1937, on the southerly slope of Todt Hill near Flagg Place, and a short distance above the Richmond Road. In 1879 Hollick and Britton wrote of the plant: "Escaped into copses on

Todt Hill, and seemingly well established." It is a native species extending southward to Florida, Texas and neighboring states. The caterpillars of one of our largest and most beautiful butterflies, *Papilio cresphontes*, feeds on *Ptelea*, and although its food plant is still abundant on Todt Hill, the last record for the butterfly was Moravian Cemetery, September 15, 1901. In 1882 it was more numerous and was also seen in September, 1893.

A number of leaves from a Linden tree, and others from a Virginia Creeper, were shown. They had been rather systematically skeletonized by Japanese beetles. In the case of the Linden the beetles had refrained from eating the margin of the leaves, and also the veins, both large and small.

Mr. Davis stated that at the end of the summer of 1936 there were over forty bags of the Bag-worm, *Thyridopteryx ephemeraciformis* on a white willow at 146 Stuyvesant Place. They were not disturbed and it was supposed that the number would increase in 1937. This was not the case, for the colony died out by reason of parasites, disease or other natural causes, and the tree later became free from bags sheltering living eggs. At the other end of the Island on Craig Avenue near Bethel Cemetery, Tottenville, the Bag-worm flourished on some locust trees during the summer of 1937. On one branch 15 inches in length, 13 bags were attached, and there were other branches nearly as crowded.

Mr. Davis also showed 19 small branches about six or eight inches in length, each bearing an acorn, that had been cut from a large Willow oak, nearly a foot in diameter, growing on the easterly side of Bedell Avenue near Hylan Boulevard. After the branches fall to the ground, the squirrels make a small hole in the side of each acorn, usually near the base, to ascertain if it contains a larva of an acorn weevil. If a larva is present, the hole is enlarged and the larva eaten. Mr. Charles W. Leng had found similar branches and acorns cut from one of the Willow oaks standing near the shore, Page Avenue, Tottenville. The specimens shown were collected September 21 and 26, 1937.

Mr. John Elfstrom exhibited a specimen of the large and beautifully colored purple beetle *Scaphinotus viduus*, collected October 2, 1937, under a log on Richmond Hill. This flightless species is now rarely found on the Island.

Mrs. Gladys B. Wilmott concluded the meeting by showing a motion picture reel of Hawks and Owls.

The meeting of March 26, 1938, was held in the Public Museum.

Mr. I. C. G. Cooper showed a number of lantern slides, made from photographs taken last summer in his garden. One of a dragonfly resting on a stick, and another showing a wasp drinking at the bird bath, were especially noteworthy.

Mr. Charles W. Leng exhibited two rare beetles found by Mr. and Mrs. George B. Wilmott near Gatlinburg, Sevier County, Tenn. They belong to the tribe Cydrini, of which many species inhabit the forests of the Appalachian Mountains, and are believed to feed on snails, their long, slender heads being apparently adapted for drawing the snail from his shell. Little, however, is known of their life history, the literature being mainly devoted to the classification and the description of new species.

In this connection Mr. Leng showed a paper by J. M. Valentine, in the Journal of the Elisha Mitchell Scientific Society, in 1935, with three photographic plates of 17 forms allied to those exhibited, plus five more plates of their feet and internal organs, indicating that the specimens found by Mr. and Mrs. Wilmott may require further addition to the nine new forms described by Valentine in the subgenus *Steniridia*.

Mr. Peter E. Crowe stated that in the past there have been reports of weasels from Staten Island, but that very few of them have been accompanied by accurate identifications of the specimens in question. In 1885 Mr. William T. Davis reported having observed a Least Weasel climb a chestnut tree. This is the only record we have of the Least Weasel as such. Other records of weasels might have been of this species, but in most of them no identifications were made. Therefore I wish to record the collection of a Least Weasel which was found dead and well dried out in an open field between New Drop and Oakwood Heights. The specimen was found March 8, 1938. It was skeletonized and proved to be a fairly old specimen. With the kind assistance of Dr. Hill of the American Museum of Natural History it was positively identified as the Least Weasel, *Mustela c. cicognani* (Bonaparte). This specimen may be regarded as the first tangible record of the Least Weasel on Staten Island.

The larger New York Weasel has been recorded several times from Staten Island: a skull in Mr. Davis' collection is unmistakably of this species. Mr. R. E. Logan tells me that in September, 1935, he found a weasel on Staten Island and that the skull, which he

saved, is probably of the New York Weasel. These records prove the presence of *Mustela n. noveboracensis* (Emmons) on Staten Island.

Mr. Crowe further stated that on April 26, 1938, his mother Mrs. A. Crowe, had found an Indian spearhead while digging in the garden at 4 Acorn Street, Oakwood Heights. According to Mr. Wm. T. Davis it was probably lost by an Indian, as there is no recorded Indian site in that immediate locality. The stone of which the spearhead is made is intermediate between shale and flint. It was formed as a clay deposit in sand, and as the sand turned to sandstone, due to pressure and heat, so, too, the clay solidified, almost to the intensity of flint. This type of spearhead is commonly found, especially in the Delaware section. Much of this data was supplied by Mr. N. C. Nelson of the American Museum of Natural History.

Mr. Wm. T. Davis called attention to the statement in *Science News Letter* of March 10, 1938, that: "Sea levels are now rising at the rate of one inch every twelve years, due to the melting of the Arctic and Antarctic ice cap, left-over from the most recent Ice Age, which began to decline only about 50,000 years ago. When this ice has all melted away, sea levels will be at least 100 feet higher than at present." A photograph taken last July of a sea-worn tree-stump exposed on the beach between New Dorp and Oakwood, was shown as evidence of the gradually encoaching sea. The following is from *The Richmond County Mirror* of September 7, 1839, "The Elm Tree. The storm of last Friday has laid bare quite a large portion of the roots of the old elm tree on the south side of Staten Island. For some time past it has been known that the sea has been rapidly encroaching upon the south shore in the neighborhood of New Dorp Lane, and the fences upon the beach have been repeatedly placed further back until they are now necessarily as far behind the tree as they were before it five years ago. Every flood tide now dashes upon the bare roots of the old tree, and every sweep of the billows still leaves them more and more exposed. About ten years ago the husbandman reaped his corn full forty feet below 'the old elm tree,' where now the water lays from six to ten feet deep."

In his paper: "On the Geology of Richmond County, N. Y.," 1881, Dr. N. L. Britton stated: "At the foot of New Dorp Lane, near where the Elm Tree Light-house is now situated, a large American elm was standing not longer ago than the year 1840.

The place where this tree grew is now beyond the end of a dock which extends some four hundred feet from the shore. This indicates a loss of four hundred feet in forty years, or an average of ten feet per year."

While the leaves on young shoots of the Paper Mulberry, escaped in many places on the Island, present most extraordinary and fantastic shapes, those on the young basal shoots of the common Sweet Gum may sometimes also assume surprising forms. The leaves are usually five pointed, but each of these lobes may be deeply cut. This is particularly true of the lower lobes. It has been said of our Sassafras, that in fossil botany its leaves would probably receive more than one specific name, and the same would be true of the Sweet Gum. Mr. Davis showed herbarium specimens to illustrate these points.

Mr. A. Tennyson Beals spoke on photomicrographs and their many uses in showing products of various kinds to advantage. His interest in this work began early and during his long experience he had to use much ingenuity in order to get the desired results. He had served many firms and individuals, and had made illustrations for Dr. A. J. Grout's book on mosses. Equipment for taking photomicrographs, as well as many photographs, illustrated this interesting talk.

The meeting of April 30, 1938, was held in the Public Museum.

Mr. Charles W. Leng stated that in the Bulletin of the Brooklyn Entomological Society, for February, 1938, p. 41, Mr. Kenneth W. Cooper has recorded *Xenos wheeleri*, order Strepsiptera, found on Staten Island by Dr. Hugues-Schrader.

Mrs. G. B. Wilmott stated that four plants of Columbine, *Aquilegia canadensis*, planted in her garden at New Dorp four years ago were doing well. This plant at one time grew wild on the Island but was exterminated a number of years ago.

Mrs. Harold Twiss had brought a number of seedling Persimmon trees for distribution. They were found in her place, "Persimmon Hill," near Richmond, Staten Island.

Mr. Hans L. Stecher stated that De Kay and Ringneck snakes were far from extinct on the Island, and that in the Spring freshly caught specimens are often brought to the museum. Two female Ringneck snakes were recently received from James McNish, 154 St. Paul's Avenue, Tompkinsville, who found them under rotting

paper, April 21, 1938. A number of De Kay's snakes were collected in similar situations.

Attention was called to an admirable editorial in the *Advance* of April 25, 1938, commending the Park Department for setting aside the great area known as La Tourette Park, and at the same time deploring the fact that it is not being properly protected. It is truly stated that: "Man cannot improve on Nature's handiwork, except to make her scenic beauties accessible by the building of paths and trails, rustic shelters against the weather, and 'lookouts' wherever a pleasant view invites the wanderer to linger . . . Yet, due to the failure of the city to employ a ranger or two to protect this lovely spot against forest fire and mutilations, some of the finest trees have been destroyed, offal and rubbish litter the camping spots, and poachers annually destroy game and wild life in spite of the city law prohibiting the discharge of firearms. No private owner of so large an estate would think of leaving it unprotected."

Mr. Wm. T. Davis stated that on March 24, 1938, while he was close to the swamp back of the Moravian Cemetery (Vanderbilt Mausoleum), and very quiet, a large Snapping turtle came by going at high speed for a snapping turtle, and also making a considerable noise. Its long neck was stretched out and it stood high on its legs. When it fully comprehended that it might be in danger, it settled down close to the ground and was quiet for nearly a half hour. Then believing it could get away, it commenced to move off silently and very slowly in the direction of Flagg's pond, where no doubt it was to spend the summer. The photographs showed several large masses of mud on the upper shell, which was slightly over a foot in length indicating a turtle of considerable age.

Photographs of "Hatchet Face," the large female Snapper found in the Clove Valley in July 1920, by R. E. Bell, and still a member of the Museum collection of living animals as well as those of the still larger Snapping turtle measured on June 17, 1930, at Woodrow, Staten Island, were shown. The turtle from Woodrow measured over the carapace with a string, was $15\frac{1}{2}$ inches long, while the plastron had a total length of $11\frac{1}{2}$ inches. Measurements of other large snapping turtles from the Island are to be found in the Proceedings of the Natural Science Association for May 9, 1889, and May 11, 1895, as well as in the Proceedings of the Nature Club for December 28, 1929. A still older record is to be found in the *Staten Island Gazette and Sentinel*, May 3, 1884. It reads as fol-

lows: "A large turtle of the species locally known as the 'Snapper,' was caught on Wednesday on the Richmond Road, Southfield by deputy sheriff M. J. Walsh. The turtle weighs nearly forty pounds and savagely fought its captor before it was secured. Mr. Walsh presented the turtle to deputy sheriff John J. Vaughn."

Mr. Wm. T. Davis stated that the night of April 5-6 was cold and ice formed. Later, on April 6, it commenced to snow and on April 7 the snow was 3 to 4 inches deep. By the middle of April the weather had become very warm and April 14, with a temperature of 78 degrees, broke existing local records for that day. April 28 with a temperature of 85 degrees was the hottest April 28 in the history of the Weather Bureau. It was said that farmers kept anxious eyes on their thermometers because freezing temperatures during blossom time would cause wide-spread damage. On Staten Island the fruit trees blossomed from two to three weeks earlier than in most years, and other vegetation was equally far advanced.

Mr. Davis further stated that on April 4 he had seen a single dragonfly, *Anax junius*, near a swamp in the woods between Richmond and the Amboy Road. On March 30, 1907, and again on the same day in 1930, a dragonfly of this species was observed on the Island. While the species is native, the early appearing individuals fly up the coast during warm weather, and sometimes are killed by the subsequent cold weather, as was likely the fate of the individual seen on April 4.

Mr. Davis stated that on April 28 he had found about 15 plants of the Moccasin flower near Bay Terrace, some of them nearly in bloom; also the Louse-wort, *Pedicularis canadensis*, partly in flower. The grasshopper, *Chortophaga viridifasciata*, that over-winters in the nymphal stage, had attained wings, a further sign of a forward season.

Reference was made to the observations recorded in the Proceedings of the Nature Club, May 23, 1925, on Gray Squirrels gnawing off many small branches about 8 or 10 inches in length from both red and black oaks, probably for nest building purposes. Usually these branches bear catkins, but this is not always the case. A box containing a considerable number of catkin-bearing branches, found on the ground beneath a black oak near Valhalla Cemetery on April 28, was shown by Mr. Davis. They bore evidence of having been gnawed from the tree.

A living female spider, *Lycosa carolinensis*, brought to the Mu-

seum by Mr. Robert B. McCulloch, was shown. The body in this large native species, is an inch and one half in length, and when the legs are out spread, it makes a remarkable appearance.

Three Turkey Buzzards were seen circling about so close to the ground near 7 Florida Terrace, Egbertville, on April 1st, that Mrs. Loring McMillen could see the colors on their necks. This buzzard does not often visit the Island.

Mr. George B. Wilmott related his experiences while collecting salamanders on his recent trip to the Great Smoky Mountains of Tennessee and North Carolina. He explained the occurrence of *Plethodon glutinosus* in relation to closely allied species in the southern Appalachians, the species in the Smokies being *Plethodon jordani*. *Plethodon glutinosus* is to be found throughout the eastern part of the United States, while the various local modified forms inhabit only the higher mountain ranges at altitudes of about 5,000 feet or over. Mr. Wilmott showed specimens of *Aneides aeneus* from the mountains near Elkins, West Virginia, and told how they were collected at night by the use of an electric flashlight. He called attention to the peculiar form of their heads and feet by which they are so well adapted to their mode of life in the cracks and crevices of rocks.

The following specimens from the Smokies were exhibited: *Plethodon glutinosus*, *P. jordani*, *Desmognathus wrighti*, *D. fuscus carolinensis*, *Eurycea longicauda*, *E. bislineata wilderae*, and *Pseudotriton ruber schencki*.

The meeting of May 27, 1938, was held in the Public Museum.

Mr. John Koestner reported many Woodticks about his place at Grasmere, and showed several preserved specimens. Applications of turpentine or kerosene were recommended for the prompt removal of ticks from their hosts.

Mrs. George B. Wilmott exhibited a dish in which were growing a *Lycopodium* and *Drosera filiformis*, as well as mosses and cranberry plants, from a handful of sand taken from a moist-spot on Island Beach near Barnegat, New Jersey.

Mr. Carlton Beil reported a Mourning Dove seen at Bard Avenue several days ago.

The destruction of Japanese Beetle grubs by various birds, particularly Starlings, Robins, and Sparrows, was reported by several members. The grubs are now close to the surface and therefore can be easily reached by the birds. Mr. Hans L. Stecher reported

that a newly hatched Milksnake was brought to the Museum for identification by a boy who found it on May 1 in the vicinity of Public School 17.

Mr. Wm. T. Davis told of a Chickadee that came to drink ice-water from the drip of a refrigerator at 146 Stuyvesant Place, and of the Starlings digging up various insects only to be set upon by several House Sparrows in an effort to get the morsel which they were unable to dig up for themselves. If there are but one or two sparrows, they are often chased away by the starlings, but the presence of four or five sparrows caused the starling to depart.

Mr. Davis stated that he had on May 7, 1938, visited the locality for the Clematis, *Viorna ochroleuca* near Oakwood, mentioned in these Proceedings for 1937, pp. 88-89, and found the plants doing well. In several places in the woods between the Amboy Road and the Richmond Road, there are small clumps of a few bushes each of *Kalmia angustifolia*. This and the Broad-leaved Laurel were once widely spread on the Island, but the many wood-land fires have been destructive, and the laurels are nearly gone.

Annual Reports

ANNUAL REPORT—BOARD OF TRUSTEES

MAY 21, 1938

The Board reports herewith the principal features of the fiscal year ending tonight.

Financially, another installment of the bequest of Dr. N. L. Britton, gifts of Mr. William T. Davis and others, have increased our invested funds. These have been in charge of Mr. Charles A. Ingalls who as treasurer has served us faithfully since January 4, 1908.

Our scientific library, under the direction of Mr. Joseph F. Burke, has been greatly enlarged by exchanges, gifts and purchases. The collation and binding of serials has been continued; in the clerical and physical labor involved W.P.A. assistance has been available and has materially contributed to progress in these operations.

The publication of our monthly "Bulletin" and of our "Proceedings" has been continued. These are the basis of our exchanges which have been notably increased.

Our systematic collection of minerals has been arranged by Mr. Carleton A. Siemer under about 875 labels. He has also rearranged our Staten Island collection of minerals. Work on our storage collections in various departments has been continued with W.P.A. assistance. Our biological collections have been increased, especially by the work of Mr. Robert O'Connor in Mycetozaa. Thirty scientific workers contributed to our Microscopical Exhibition.

Our service to the public has been increased, especially in the number of school classes brought to us by W.P.A. Excursion Projects. We have had during recent months an average of two such classes daily. They come not only from Staten Island, but also from Manhattan, Brooklyn, Bronx and Queens, and have received visual instruction in subjects correlated with their studies through living specimens or illustration by lantern slides. Messrs. Carlton Beil and Hans L. Stecher have usually been the instructors.

Meantime the Children's Nature Room has been reorganized by Mrs. Eva R. Bonney for daily visits by young people, of whom there have been over 6000, including Boy Scouts and Girl Scouts to whose requirements particular attention has been paid.

In the field of adult education, our system of affiliated societies, each organized for the study of a definite subject, has continued to produce gratifying results, as shown by their individual reports. The work of only five members of our staff is available for this purpose, but with the active cooperation of more than sixty volunteers, there have been more than 100 lectures, field trips, exhibitions and less formal meetings, whereby each participant has had opportunities of adding to his or her store of information. Among such participants have been veterans of many years service in science, art and history, and also, to our great satisfaction, younger men and women of promise for the future.

To all who have contributed to our progress during the year the Board is profoundly grateful.

INSTITUTE MEETINGS

October 16, 1937.—Mr. Cornelius G. Kolff spoke on "To, Through and Around Ireland."

November 20, 1937.—Miss Mabel Abbott spoke on "Literary Associations of Staten Island." An exhibition was made by members of the Junior Naturalists Club, and of books including the second edition of "Days Afield on Staten Island."

December 18, 1937.—Dr. James P. Chapin told with illustration by lantern slides and motion pictures the story of his successful "Search for the Congo Peacock."

January 15, 1938.—Mr. Junius Bird described his "Experiences during two and one half years collecting in Patagonia and Fuegia" with lantern slide illustrations.

February 19, 1938.—Mr. Dan McCowan, under the title "A Naturalist in the Canadian Rockies," gave a description of the vicinity of Banff and Lake Louise with illustration by excellently colored lantern slides.

March 19, 1938.—Under the auspices of the Staten Island Microscopical Society, Mr. I. C. G. Cooper, president, an exhibition of sixty microscopic objects under thirty instruments was made, as arranged by a committee, including Mr. Joseph F. Burke, Mr. Cooper, and Mrs. Ralph W. Nauss.

April 16, 1938.—Dr. A. H. Thomasson described, with illustration by motion pictures, his journey to "South Africa and Kruger National Park" including also Victoria Falls and Indian Ocean at Durban.

May 21, 1938.—Dr. Frederick H. Pough spoke on "A Mineralogist Abroad" with illustrations, made on color film and shown by Leitz projector, of Norway and Sweden. An exhibit of the rare minerals obtained was shown.

Refreshments were served at each Institute meeting by Mrs. Hoffmeyer, Mrs. Leng, Mrs. Strauss, Mrs. Twiss and Mrs. Witte.

SECTION OF NATURAL SCIENCE

MR. CHARLES W. LENG, president; MR. JOSEPH F. BURKE, recorder

Meeting of May 4, 1938.—The following papers were read: Dr. Wm. H. Wiegmann, The Genus *Scirpus*; George B. Wilmott, Salamanders in the Southern Highlands and on Staten Island; Peter Crowe, The Least Weasel on Staten Island; William T. Davis, Two New Cicadas; Hans L. Stecher, Collecting of *Anthophilax hoffmani* on Mt. Mitchell, N. C.; Robert O'Connor, Collecting Mycetoza in 1937 on Staten Island; Joseph F. Burke, *Physarum penetrans* on Staten Island; Ruth N. Nauss, Observations made on Laboratory Cultures of *Cribraria violacea* Rex; Robert McCullough, Epsomite on Staten Island; Carleton Siemer, The Systematic Mineral Collection and New Accessions; Eva R. Bonney, Report for Children's Nature Room. Brief reports were made by Carlton Beil and Robert M. Wotton.

Exhibits: By Mr. O'Connor, Mrs. Nauss, Dr. Wiegmann, Mr. Wilmott,

Mr. Crowe, Mr. Davis, Mr. Stecher, Mr. Siemer, Mr. McCullough and Mr. Wotton. Mr. Burke spoke briefly on the exhibits.

HISTORICAL MEETINGS, LECTURES, AND ACTIVITIES

The activities of the members of the Historical Section of the Institute have contributed to the work of the Staten Island Historical Society. Under its auspices the "Staten Island Historian" has been published and, with W.P.A. assistance, the records of Summerfield M. E. Church have been copied and filed with us for public benefit.

Meetings of the Huguenot Society have been held in the Museum and in various ways assistance has been given to other societies and individuals interested in Staten Island history and genealogy. Among the results have been short histories of the island in "The Lamp" by Mr. Wm. M. Craig, and in the "History of New York State" by Messrs. Davis and Leng.

In Genealogy, Mrs. Byron M. Fast has spent many days in the Museum systematically arranging available records of old Staten Island families; many inquiries in genealogy have been received and answered.

Lectures on the history of Staten Island, and of the United States, have been given to classes from our own schools, and through the operation of W.P.A. Excursion Project, to classes from Manhattan, Brooklyn, Bronx and Queens.

The records, maps, illustrations, etc., accumulated in the Museum have been of service during the year to several public bodies as well as to many individual seekers for information.

SECTION OF ART

The Art Committee, of which Miss Carolyn C. Mase is chairman, has held fourteen exhibitions in the Art Gallery from May, 1937, to May, 1938, viz.: May 10 to June 7, 1937.—Memorial Exhibit of the work of Philip Rice, opening with an evening reception.

June 10 to June 30, 1937.—Prints from the Grant Studios.

July and August, 1937.—Work of Children of Museum Art Class.

September, 1937.—Pueblo Indian Designs, loaned by American Federation of Arts.

Sept. 30 to Oct. 9, 1937.—Prints donated in 1887 by Mr. and Mrs. C. G. Hine.

Oct. 13 to Nov. 23, 1937.—Exhibit of Paintings and Sculpture, under the auspices of Staten Island Art Association, opening with an evening reception.

Nov. 27 to Dec. 23, 1937.—Water Colors loaned by Helen E. Cleaves and Margaret Stone.

Dec. 23 to Dec. 31, 1937.—Photogravures of Venice and Italian Masterpieces, gift of Mrs. O. T. Johnson.

Jan. 3 to Jan. 15, 1938.—Photographs, under the auspices of Staten Island Camera Club.

Jan. 17 to Jan. 31, 1938.—Water Colors loaned by H. E. Schnakenberg and Ely M. Behar.

February, 1938.—Group Exhibit of Recent Paintings, Port Richmond High School Art Teachers, including Madeline S. Bowles, Evelyn H. Lahr, George Michaud, Irene Nord, Jennie Smith, Carmela Trapani, Carolyn Windeler, opening with a reception on Sunday afternoon, February 6.

March, 1938.—Water Colors, loaned by Women Painters of the State of Washington.

April, 1938.—Oils and Sculpture, by Staten Island Artists.

May, 1938.—Etchings and Aquatints, by Philip Kappel.

These exhibitions were visited by more than the 3000 people who signed in the guest book from fifteen states and four foreign countries. The members of the Art Committee who arranged these exhibitions were Carolyn C. Mase, chairman; Henrietta Beaumont, Arthur Beaumont, Muriel Mattocks Cleaves, Arthur E. Lorenzani, Eleanor Marshall, Agnes C. Nash, Sec.-Treas. Emma L. R. White, Adeline A. Wigand, Otto C. Wigand.

The Museum Art Class for children from 10 to 16 years of age, conducted by Miss Agnes C. Nash, assisted by Miss Bessie Blauvelt, has held 33 meetings on Saturday mornings, with an average attendance of 24. The work consisted of drawing, soap sculpture and modelling, and was exhibited during July and August.

The Staten Island Art Association, Mr. W. Irving Lewis, president, organized in 1936, has held three evening meetings in the Museum with demonstration of doing a portrait from life, description of methods, and a lecture by Mr. Charles F. Bopes on "Van Gogh and Gauguin." Two of the exhibitions in the Art Gallery were sponsored by the Art Association.

STATEN ISLAND BIRD CLUB

MR. HOWARD H. CLEAVES, president; MR. CARLTON BEIL, field-secretary

Twelve monthly field trips and an annual meeting were held; the speaker at the annual meeting on May 18 was Mr. S. H. Chubb on "Wild Life of the Catskills." The field trips often ended in meetings at the homes of members including Mrs. M. A. Seery, Mr. and Mrs. K. O. Nesslinger, Mr. and Mrs. Cleaves, Mr. and Mrs. Harold E. Twiss, Mrs. T. Johnson, Mrs. H. M. Trench and Miss K. S. Seaman. Winter feeding stations for birds were maintained with the generous support of Mrs. L. A. Dreyfus. Educational work was continued through illustrated lectures in the Museum and at schools; Merit Badge courses were provided for Boy Scouts and similar instruction for Girl Scouts. The Christmas Bird Census was taken by Dr. James P. Chapin, Dr. Wm. H. Wiegmann, Geo. H. Hallett, Jr., Charles Pearson and Carol Stryker.

Among the interesting features of the year were American Egrets seen by George B. Wilmott in the marsh near Arthur Kill Road; Mother Carey's Chickens, seen by Dr. Wiegmann, Mr. Wilmott, and Mr. Joseph F. Burke; Snowy Owls, presented by Mr. Roy Latham, of Orient, Long Island, through Mr. Davis.

STATEN ISLAND MICROSCOPICAL SOCIETY

MR. I. C. G. COOPER, president; MR. JOSEPH F. BURKE, secretary

Meeting of October 6, 1937.—Reports by members on Summer Activities.

Meeting of November 3, 1937.—Display of Myxomycetes collected during Summer of 1937 by Joseph F. Burke and Robert O'Connor.

Meeting of December 1, 1937.—Dr. Wm. H. Wiegmann exhibited and discussed the Microscopical Preparations of A. C. Coles.

Meeting of January 5, 1938.—Annual Meeting. Mr. I. C. G. Cooper was elected president, succeeding Mr. John M. Sheridan, who became vice president. Mr. George E. Ashby was re-elected treasurer and Mr. Joseph F. Burke, secretary. Mr. I. C. G. Cooper gave a talk on Fresh Water Algae.

Meeting of February 2, 1938.—Mr. Peter Thein gave a talk on Rock Sections with projection of thin rock sections by polarized light.

Institute Meeting, March 19, 1938.—Annual Exhibition. Directed by the Staten Island Microscopical Society. Thirty exhibitors.

Meeting of April 6, 1938.—Mrs. Ruth N. Nauss gave a talk on Mycetozoa with lantern slide illustration of her laboratory cultures.

STATEN ISLAND MINERALOGICAL CLUB

MR. CARLETON A. SIEMER, president

Meetings were held monthly from October to May, omitting December. Field trips were made to interesting localities. Mr. Siemer was elected president March 25, 1938, succeeding Mr. Peter Thein. An exhibit of minerals was prepared for the Tottenville Library by Mr. Siemer who also, with the assistance of Mr. Walter Peterson, arranged two petrographical collections, one of 500 specimens the other of 120 specimens, and catalogued our large systematic collection. This work was one of the features of W.P.A. Project 465-97-3-75. The collection has been enriched in the Hydro Carbons by Mr. George E. Ashby, and by several rare minerals received from Mr. Harold Buckelew. The Institute lecture in May was contributed through the efforts of the club, Dr. Frederick H. Pough being the speaker, using the Leitz projector.

WOMEN'S AUXILIARY

MRS. ROBERT E. CAREW, president;

MRS. JAMES A. HOLDEN, recording secretary

The Auxiliary opened the season on October 20, 1937, with a reception and tea, held six regular monthly meetings, and its annual spring luncheon. The programs at the monthly meetings included Mrs. Harry F. Towle on Gaspé, Christmas Readings by Miss Mary Darwin, Dr. Matthew Faithe on Egypt, Miss Emily Woods on the World's Fair, a speaker on the Motion Picture Industry, and readings by Mrs. W. Knapp Bailey. The spring luncheon on April 25, under the direction of Mrs. A. W. Hoffmeyer was a success in every way; the speaker, Captain Bob Bartlett of Arctic fame, delighting the guests by the pictures he showed and his familiar comments.

The Auxiliary has made notable contributions to our bookbinding operations and to the purchase of a new motion picture projector, besides the services of its Hospitality Committee at Institute meetings. Its membership has been increased during the year.

SECTION OF BELLES LETTRES

MR. ROSWELL COLES, president

Monthly meetings of this section were held, usually on Sunday afternoons, at the homes of its members. Miss Mabel Abbott, past president of the section, delivered a scholarly address at the meeting of the Institute on November 20, 1937, on "Literary Associations of Staten Island."

STATEN ISLAND PHILATELIC SOCIETY

MR. LANCE W. STAUGHTON, president; MRS. P. A. BONNEY, secretary

Meetings were held twice each month from September to May at which auctions, competitive exhibits and addresses were made. An exhibit, changed weekly, was maintained in the Museum. The Boys Stamp Club, directed by Mrs. Bonney was continued for its sixteenth year; at its meetings and through the weekly exhibit, the natural history, geography and economics associated with stamps are shown.

ASTRONOMY CLUB

MR. CARL DRUCKLIEB, president

This club, organized March 16, 1937, has held monthly meetings, except in summer. In June, 1937, Mr. Charles L. Schaefer made an address on the "Eclipse of 1925"; in January, 1938, Mr. Drucklieb spoke on "Planetoids and Satellites." An illustrated lecture for children on "Sun, Moon and Stars" by Mr. Drucklieb was given on January 28.

STATEN ISLAND HORTICULTURAL SOCIETY

MR. FRED S. HEAL, president

This society, organized January 26, 1921, has continued to hold quarterly meetings and flower shows in May, June, August, September and October, featuring in turn Iris, Roses, Gladiolus, Dahlias and Chrysanthemums.

STATEN ISLAND CAMERA CLUB

MR. ARTHUR G. HASLAM, president

This club, which began to meet in the Museum in 1935, has continued to meet twice a month except in summer. In January, 1938, an exhibit of photographic art was made in our art gallery by its members.

EDUCATIONAL ACTIVITIES

From the foregoing reports it will be seen that more than one hundred meetings were held offering opportunities for adult education in art, science, history and literature. Among the speakers were six members of our

Board of Trustees, Dr. Chapin, Mr. Davis, Mr. Burke, Mr. Kolff, Mr. Lewis, and Mr. McMillen; seven of the officers of affiliated societies, Messrs. Cleaves, Cooper, Drucklieb, Nascher, Siemer, Thein, and Wilmott; as well many friends and members of the Institute, including Miss Mabel Abbott, Mr. and Mrs. Beals, Mr. Junius Bird, Capt. Bob Bartlett, Mr. Charles Francis Bopes, Mr. Alfred E. Cookman, Mr. L. E. Daniels, Dr. Matthew Faithe, Mr. Robert Hagelstein, Mr. John Koestner, Dan McCowan, Miss Maud Morgan, Lawton Mackall, Mr. and Mrs. Nauss, Dr. Frederick H. Pough, Mr. Chas. L. Schaefer, Mrs. Harry F. Towle, Dr. A. H. Thomasson, Mrs. Harold E. Twiss, Dr. Wm. H. Wiegmann, each with an inspiring story to tell. The educational value of these meetings was not only in the information imparted by the announced speakers, but also in the informal association of the audiences with the speakers and with one another, often prolonged by social features.

In our educational activities for school children the assistance of W.P.A. Excursion Projects has resulted in an increase. In 1926 we had visits from 8 schools; in 1937 from 28 schools; in the first half of 1938 from 76 schools, coming from Brooklyn, Manhattan, Bronx and Queens, as well as Staten Island, for illustrated lectures and demonstrations on the subjects which at the time of the visit they were studying. Commendations have frequently been received from the teachers who accompany the classes; and a detailed report has been submitted to Dr. Harold G. Campbell, Superintendent of Schools, by request.

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REPORT OF TREASURER

MAY 15, 1938

Balance last report	\$14,379.19
N. L. Britton Trust Fund, restricted	358.73
Donations for special purposes	957.45
Other receipts	2,385.94
	\$18,081.31
Paid account of loan	\$ 600.00
Paid account of printing, etc.	2,076.77
Balance	\$15,404.54

TREASURY ASSETS AND LIABILITIES

Bank Balances, including restricted funds	\$15,404.54
Permanent Fund, restricted	2,984.99
John J. Crooke Fund, restricted	2,000.00
D. M. Van Name Fund, restricted	90.00
Natural Science Fund, restricted	3,121.00
Bonds, N. L. Britton Fund, restricted	9,000.00
Real Estate, assessed valuation, restricted	12,000.00
	\$44,600.53
Liabilities, \$5,000.	
City Appropriation for 1938	\$12,430.00

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1. PROCEEDINGS OF THE NATURAL SCIENCE ASSOCIATION OF STATEN ISLAND
Complete sets cannot now be supplied.

These PROCEEDINGS were printed in octavo numbers, partly in leaflet and partly in pamphlet form, from November 10, 1883, to June 3, 1905, and are included in nine volumes, separately indexed.

They may be obtained by members and patrons at \$1.50 per volume. To others the price per volume is \$3.00.

2. PROCEEDINGS OF THE STATEN ISLAND ASSOCIATION OF ARTS AND SCIENCES

These PROCEEDINGS are in 8vo parts, 4 parts to a volume except V. 7, which was issued complete in one part. They contain the scientific and other records of the meetings of the Association and consist of v. 1-7, June 1905—May 1918.

By resolution of the Association all members and patrons may obtain back parts at 35cts. or back volumes at \$1.25. To others the price is 75 cts. per part or \$3.00 per volume for both current and back issues.

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Special Issue, Jan. 1924. List of the Coleoptera of Staten Island, by Charles W. Leng and William T. Davis. 82 p. and index. Price \$1.25.

Vol. 3, Oct. 1924—May 1925, p. 1-154. 1926.

Vol. 4, Oct. 1925—May 1927, p. 1-138, *pl. 1-4*. 1928.

Vol. 5, Oct. 1927—May 1930, p. 1-205. 1930-1931.

Vol. 6, Oct. 1930—May 1932, p. 1-220, *pl. 1-8*. 1931-1933.

Vol. 7, Oct. 1932—May 1936, p. 1-164, *pl. 1-4*, and *map*. 1933-1935.

Vol. 8, Oct. 1934—May 1938, parts 1-3, p. 1-115, *pl. 1-2*. 1937-1938.

Special Publication, Nov. 12, 1931. History of the Staten Island Institute of Arts and Sciences, prepared for Semi-Centennial Meeting; list of members included. 24 p. *illus.* Price 50 cts.

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PROCEEDINGS
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STATEN ISLAND INSTITUTE
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EDITED BY
CHARLES W. LENG, WILLIAM T. DAVIS
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Issued September 26, 1940
Staten Island, N. Y.
THE SCIENCE PRESS PRINTING COMPANY
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PROCEEDINGS
OF THE
STATEN ISLAND INSTITUTE
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ARTS AND SCIENCES

VOLUME IX

OCTOBER 1938—MAY 1940

EDITED BY
CHARLES W. LENG, WILLIAM T. DAVIS
JOSEPH F. BURKE, ROSWELL S. COLES
PUBLICATION COMMITTEE

PUBLISHED BY THE
STATEN ISLAND INSTITUTE OF ARTS AND SCIENCES
STATEN ISLAND, N. Y.
1940

THE SCIENCE PRESS PRINTING COMPANY
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PLATE I



FIG. 1. REPRODUCTION OF A WATER COLOR SKETCH MADE BY ADAM W. SPIES ABOUT 1848-50 SHOWING NORTHWEST SIDE AND SOUTHWEST END.



Photograph by William H. Mersereau

FIG. 2. REAR OF THE BRITTON COTTAGE, c1880.

PROCEEDINGS
OF THE
STATEN ISLAND INSTITUTE
OF
ARTS AND SCIENCES

VOL. 9

OCT., 1938—MAY, 1940

PARTS 1-2

The Britton Cottage
The Story of its Construction
BY LORING McMILLEN
With drawings by the author

The story of the Britton Cottage, like that of other houses of its humble type, is obscured by a complete absence of contemporary documentary evidence relating to its origin and growth. The lack of general education and leisure of our early inhabitants acted against their recording anything but the most vital of their daily happenings and even in these matters they displayed an unsympathetic attitude towards descendants and historians alike.

However, the most accurate story of a house is obtained by a minute examination of the building itself. This is particularly true of the Britton Cottage where much of the original structure remains unchanged, a silent record of the past. Much of the charm of this lovely cottage is derived from this unaltered state and it was chiefly for this that in 1934 the old house was measured and drawn by the Historic American Building Survey and the drawings filed in the Library of Congress with similar material of the past.

Under the name of the old Cubberly House—the Cubberly family having been former owners—the gift of the Britton Cottage to the Staten Island Institute of Arts and Sciences was recorded in the

PROCEEDINGS for October, 1914—May, 1915, Vol. V. The donor was Dr. Nathaniel L. Britton, a descendant of an early owner and a man who will remain long in the memories of naturalists the world over. From the pages of the PROCEEDINGS, as written by Dr. Arthur Hollick from information furnished him by Edward C. Delavan, Jr., I have copied the various owners of the property on which the house stands. I have made some changes in this list, and in the following description attempted to assign the building of the original cottage and its various additions to these owners.

September 29, 1677. Gov. Edmund Andros granted by patent to Obadiah Holmes a tract of land of "ninety six acres of upland and one Lott of Meadow qta twelve acres adjacent to ye Land" known as the "Governor's Lot." (Liber 4, Patents, page 140.)

October 28, 1695. Obadiah Holmes and Elizabeth, his wife, deeded the farm to Nathaniel Britton. (Liber B, Deeds, page 608.)

April 9, 1714. Nathaniel Britton and Elizabeth, his wife, to Thomas Walton. (Liber C, Deeds, page 48.)

February 19, 1728. Thomas Walton, deceased, by will to son, Thomas. Thomas received the house lot and purchased the legacies of his brothers and sisters, thereby keeping the farm intact. (Unrecorded Wills, N. Y. Historical Society Collections, Vol. XI, page 71.)

June 20, 1761. Thomas Walton to Isaac Cubberly. (Liber E, Deeds, Page 84.)

June 5, 1786. Isaac Cubberly, deceased, by will to son James Cubberly, "the southern part of my farm or plantation that I now live on with all the buildings and improvements thereon." (Liber 39, Wills, page 240, N. Y. Surrogates Office.)

March 15, 1833. James Cubberly, deceased, without wife or children, left property to his nephews and nieces. (Liber D, Wills, page 222.)

July 18, 1833. Heirs of James Cubberly, deceased, to Isaac Cubberly, brother of James. (Liber V, Deeds, page 252.)

June 26, 1847. Executors of the will of Isaac Cubberly, deceased, to David J. Tysen. (Liber 15, Deeds, page 520.)

June 28, 1847. David J. Tysen to Harriet Lord. (Liber 15, Deeds, page 540.)

PLATE II



Photograph by E. Seehuysen c1905

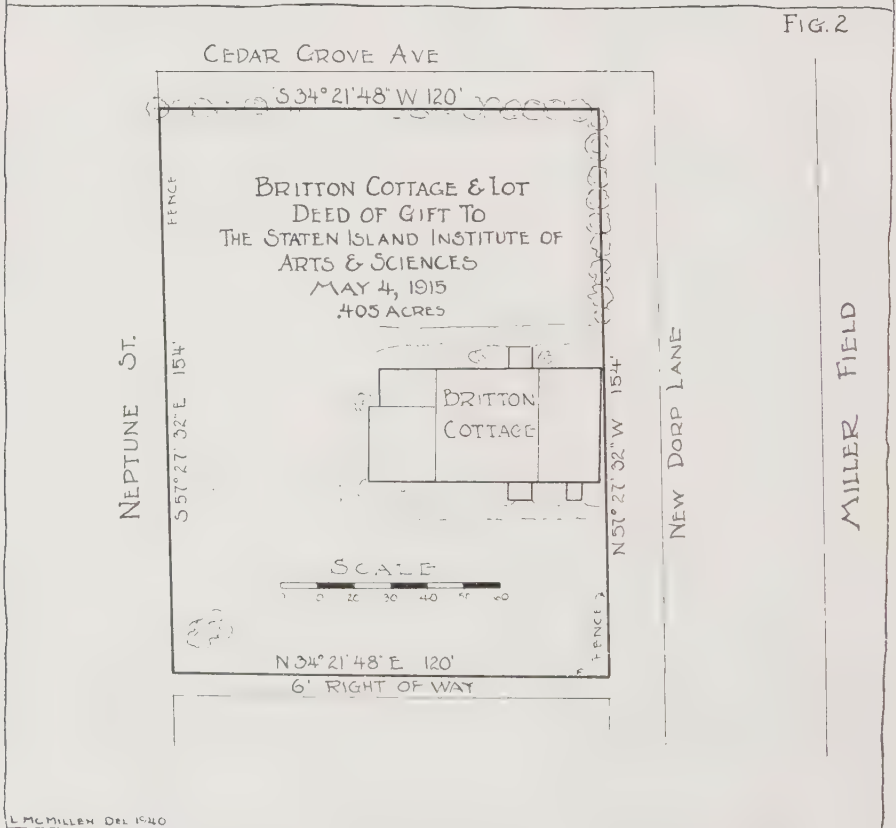
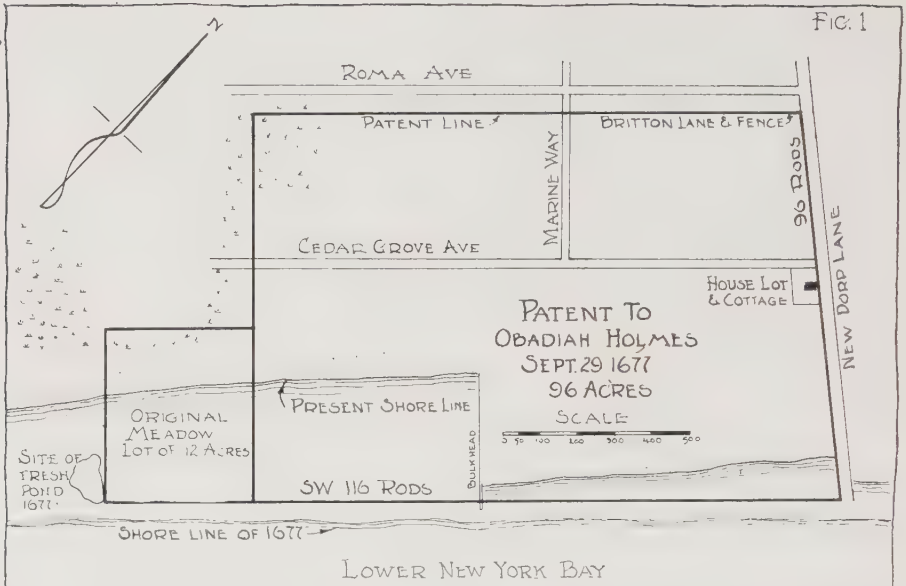
FIG. 1. BRITTON COTTAGE LOOKING EAST ALONG NEW DORP LANE.



Photograph by William H. Mersereau c1889

FIG. 2. THE BRITTON COTTAGE, NEW DORP, STATEN ISLAND.

PLATE III



Harriet Lord Turner, subsequently Harriet Lord Britton, was the mother of Dr. Nathaniel Lord Britton who inherited the house. May 4, 1915. Dr. Nathaniel Lord Britton and wife, Elizabeth, deeded the house to the Staten Island Association (now Institute) of Arts and Sciences to be preserved "as an example of old colonial cottage architecture." (Liber 443, Deeds, page 503.)

On Plate III (1) is shown the location of the Governor's Lot patented to Obadiah Holmes in 1677, and in (2) of the same plate, the plot with the house which was deeded to the Institute in 1915. An examination of this patent will disclose several interesting matters. The well known fact concerning the recession of the southerly shore line of Staten Island is strikingly shown by the relative position of the shore in 1677 and at the present day. Approximately twenty acres of the original 108 have been swept away by the action of the tides and waves. The site of a Fresh Pond, mentioned in the patent and as late as 1723, is now 300 feet off the shore of the Cedar Grove Beach Colony. The famous Elm Tree, a monument to mariners as late as 1840, now perpetuated in the name of the Elm Tree Light once stood, as corroborated by Dr. Britton, 400 feet from the present foot of New Dorp Lane. (Leng and Davis, Vol. I, page 24.)

In the patent, Holmes' tract is called the "Governor's Lot" deriving this name from Governor Francis Lovelace. This lot he probably reserved for his own use when ordering, in 1670-1, the surveyor, Jacques Cortelyou, to lay out the lots at the New Town. (Council Minutes, Vol. II, page 487.) Lovelace's claim to this lot and others was voided for his surrender of New York to the Dutch in 1673.

The highway referred to in the patent is the present New Dorp Lane and, since it was laid out in the surveys of 1670-1, is one of our oldest roads.

Examining again Plate III, figure 1, we see that New Dorp Lane extends along the northeasterly side of Holmes' patent and close to the highway at a point midway between the westerly and easterly limits is located the Britton Cottage. The house is now located, as shown in figure 2 of Plate III, on a nearly rectangular plot measuring 154 feet along New Dorp Lane and 120 feet along Cedar Grove Avenue.

Like almost all old dwellings which have been the home of in-

creasing families, the Britton Cottage is composed of several sections added to the original structure. These are shown in Plate IV, figures 1, 2, 3. The original house (figure 1) is assumed to have been built by Obadiah Holmes about 1677, the year he received his patent. It is possible that he built a year or two earlier as it was not unusual to reside on the land some time prior to receiving formal title.

Obadiah Holmes deserves more than mention in passing. He came to Staten Island from Gravesend, Long Island about 1670 for he is first mentioned at that date. In 1674 he was elected constable, and, about 1679, town clerk. He must have been a man of superior character, for the court records which report the petty fence breaking, pig stealing exploits of many of his neighbors never mention his name in these capacities. The roving spirit of a pioneer must have been his, for by 1695 he had moved to Salem County, New Jersey, and Staten Island had lost a good citizen.

The house which he constructed was a one story fieldstone structure facing southeasterly towards the Lower Bay. This is shown in Plate IV, figure 1, and the floor plan in Plate VI, (heavy shaded area). Like most of its contemporaries, its chief architectural virtue lay in the simplicity of line and proportion, only recently rediscovered as qualities in housebuilding.

The difference in roof pitch (Plate V) between the front and the rear of the house is an unusual feature almost indigenous to Staten Island. The Voorlezer's House, circa 1695, and the Homan House, circa 1700, in Richmond Village, are two other early examples. The purpose is obscure and in the Britton Cottage appears to have been the result of a change in original plans as the rear rafters show the dove tailed purlin notching for a roof of 45 degree pitch, which would have given a four foot higher roof pitched equally front and rear. The front rafters show no alteration but do show, spiked to the foot of each at the roof plate, the ends of supports for a spring eave or roof extension, a feature which is characteristic of many of our old buildings. As these supports are inaccessible and only dimly seen by peering between the rafters from the attic floor above, I am unable to say whether they are original or not. However, they could have been original and would have formed a spring eave of two to three foot extension. This would

PLATE IV

FIG. 1



c. 1675-1700

FIG. 2



c. 1700-1714

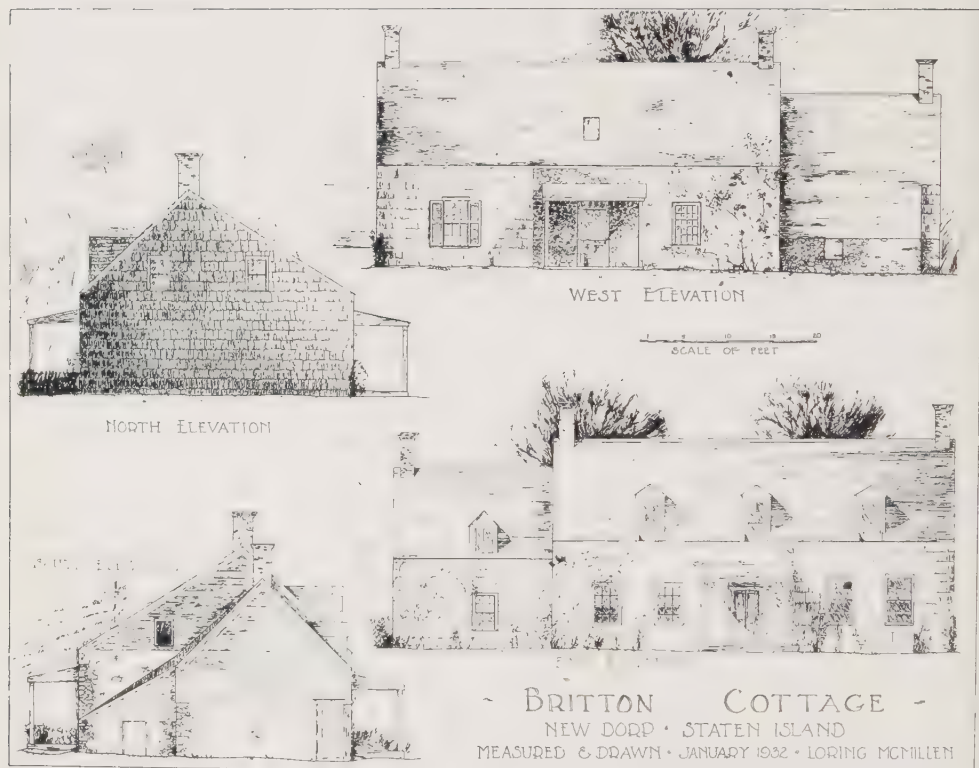
FIG. 3



c. 1714-1790-1800

...THE GROWTH OF THE BRITTON COTTAGE...

PLATE V



have been the earliest type, without the vertical supports which in later houses formed also the columns of a piazza.

The gable dormer windows are clearly a later improvement evidently added when the northerly and latest section of the house was built about 1790. That these are not original is proven by the identical construction of the dormer on the later section with the two on the older, together with the even spacing which could only have resulted from a consideration by the 1790 builder of the old and new facade as a whole. There are no indications of earlier dormers.

The twenty-two inch walls of this old section are fieldstone laid up without coursing in clay. The joints are pointed on the exterior for protection from the weather with oyster shell mortar. This mortar was made from sand and burned oyster shells, as lime in any other form was difficult to obtain. Similar mortar was applied as plaster to the interior walls which, while affording scant protection from dampness and the "chills and fever," made an uneven surface on which the shadows play without tiring the eyes.

A door and two windows face the sea, but are not original. When the "decline in taste" was well along about 1840, six light double hung sash were substituted for the lovely smaller light sash with heavy bars as in the original window Plate VII still in place, in the rear. The divided or Dutch door in the rear, same plate, dates from about 1800 and is of the "button bead" type of that period. The porches, front and rear, were in place as early as 1848 according to the Spies painting, Plate I, Fig. 1, and while not original in material are probably original in appearance.

The first, or ground floor, of the old stone section is divided into an unusually spacious hall along the northerly side and two rooms, as shown in the heavy shaded section of the plan. As in most old houses on Staten Island, it is difficult to ascribe to this plan, or in fact to the entire house, any Dutch, English or French origin—the three nationalities which formed the background of the first settlers. The reason for this is the mixing by marriage and neighborliness of these three peoples, a mixing which by the second generation had fused together their domestic traditions, at least. Often it is true that some intangible characteristic of a house will convey a feeling that England, or Holland, or France, was the birthplace of the builder. The Britton Cottage in this way seems English, a feeling

supported by its occupants but more particularly by its size, plan and proportions. The English built, as a rule, larger homes than their Dutch and French neighbors and a house two rooms deep with a large hall seemed to them a better plan than the usual one room depth plan of the Dutch and French.

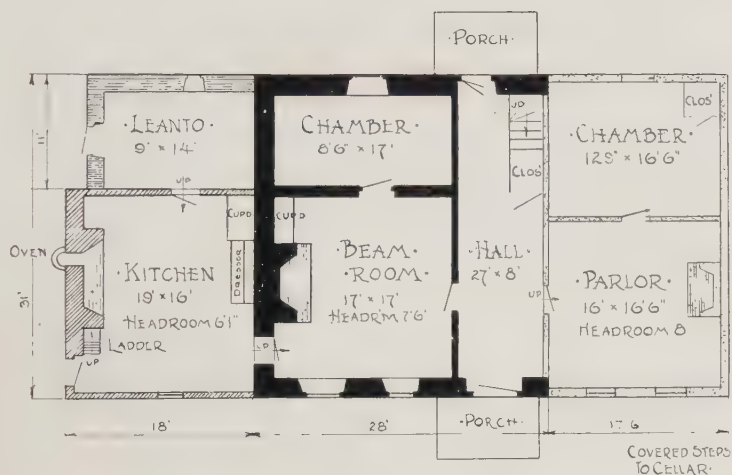
However, this analysis of survival of nationalistic traits, is an involved study and I shall leave it for another time and return to our story of the Britton Cottage. From the hall, an enclosed and partly winding staircase ascends to the second floor. Faint signs, barely traceable, on the floor and wall indicate that this stair case was reversed about 1820 and formerly rose straight to a landing one step below the floor level. The purpose in making this change was to permit the construction of a doorway to a new chamber and to allow more headroom at the top of the stairs beneath the low roof. The closet beneath the stairs was made at this time as I believe the original stairs were not enclosed to preserve the heat as at present. The door to this closet has a small wrought iron lock and a pair of H hinges, Plate X, last used about this time. Similar hinges, of the HL type, support the interesting sunken panel door, Plate IX, to the "Beam Room." These last hinges are so called from their shape but tradition would have us believe that they stood for "Holy Lord" and were designed to ward off witches and evil spirits, once so prevalent.

The room in which this door opens has a quiet dignity, reminiscent of the past. The massive hewn oak beams which give the room its name measure nine by twelve inches. Aged dark brown, they have a double bead on the lower edges. The white pine floor boards, some 18" wide, of the rooms above rest directly upon them and form the ceiling of the "Beam Room." The brick fireplace, Plate IX Fig. 3, is a simple type surrounded by a wooden mantel-piece and shelf, a low cupboard on the right side, and two cupboards which open higher up on the two sides of the chimney. This fireplace is probably a replacement of a larger original which was removed when the kitchen addition was made about 1700.

Probably no feature of the house is more worthy of attention than the door and doorway from the "Beam Room" into the little rear chamber, Plate IX. The country joiner who framed this architectural gem for Obadiah Holmes left a monument more enduring than his name. A solid beaded door frame is set in the

PLATE VI

FIG 1

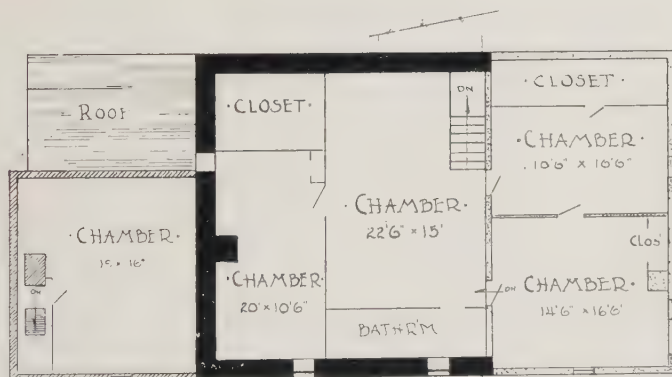


FIRST FLOOR PLAN.

THE BRITTON COTTAGE.



FIG 2

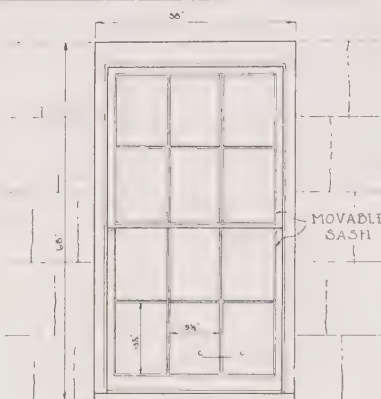


SECOND FLOOR PLAN.

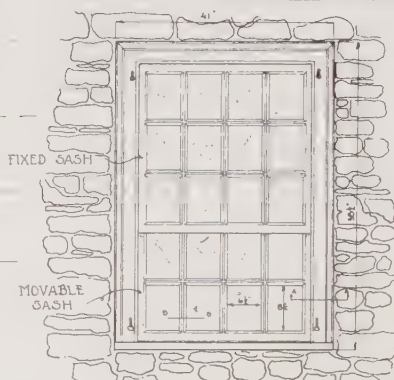
LEGEND.

- | | | | |
|--|------------------------------------|--|---------------------------------------|
| | Built by Obadiah Holmes c 1675. | | Built by Britton or Walton c 1714. |
| | Built by Nathaniel Britton c 1700. | | Built by one of the Cubberlys c 1790. |

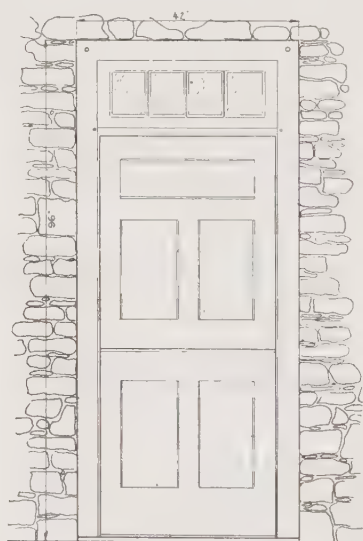
PLATE VII



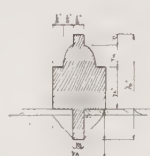
WEST WINDOW
NEW SECTION
¾" SCALE



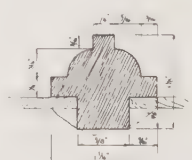
WEST WINDOW
OLD SECTION
¾" SCALE



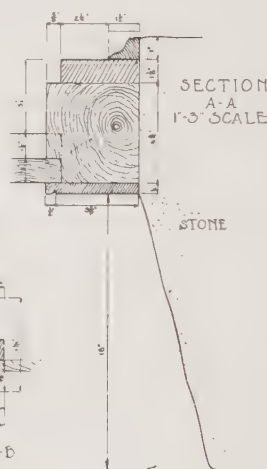
WEST DOOR
¾" SCALE



SECTION C-C
MUNTIN
ACTUAL SIZE



SECTION D-D
MUNTIN
ACTUAL SIZE



SECTION
A-A
1'-0" SCALE

DETAILS
BRITTON COTTAGE
MEASURED & DRAWN, APRIL 1932

stone partition wall and completed with molded trim. The shelf over the doorway, designed for the silver tankard or pewter plate, is a continental touch not usual in our early houses. The door is low, a bare five and one half feet, and the three large raised panels are early forerunners of the more refined Georgian paneling so common as late as 1800.

The little rear room into which this lovely doorway leads was probably the bedroom of the head of the house. The "Beam Room," when originally built, was the kitchen, dining room and living room combined. The children slept on the second floor, which is divided into two rooms by a vertical board partition and closed by a batten door. This arrangement appears old by the wrought iron nails and hardware on the door. In this southerly attic room Dr. Britton by the light of the two small windows or an oil lamp wrote part of his famous *Illustrated Flora of the Northern United States and Canada* published in 1806-8. A garret, now closed up, was formed by the placing of boards on the horizontal tie beams or purlins. Here while searching about in the dusty corners where the faint sounds of the street seemed of another world, I uncovered a silver knee buckle which once graced the knee of a Walton or a Cubberly; also a home made wooden crutch, remnant of some mishap, and lastly a curved wooden support for the canopy of a "four poster bed." To the sentimentally minded, these three relics of a former age might appear symbolic: the buckle, of the vainness of man, the crutch, the injury from such vainness, and lastly the bed, the inevitability of death and man's final resting place.

When Nathaniel Britton, himself a man of some prominence on the Island, moved into the stone house in 1695, he soon found it too small for his needs. For it appears more than likely that it was he who, about 1700, built the southerly kitchen end shown in Plate IV, figure 2. In type it is of that date and hardly later, as the unusually large open fireplace and the brick or "Dutch" oven built into the rear were not commonly constructed in this fashion later.

That this section is later than the stone section is clearly shown by the presence of the original clapboards of the southerly gable end of the old section which appear in the garret over the kitchen. These show little wear from the elements and are of white pine three quarters of an inch thick, random widths, nine to fourteen inches wide, placed "ship-lap" fashion. The lower edge is half

beaded with a five eighths inch bead, and flecks of one coat of original lime white wash still cling to the surface.

It occurred to the carpenter builder to use frame construction in this addition with the exception of the southerly end, which because of the size of the fireplace is built of stone up to the ceiling level. The other walls are constructed of vertical posts on 40 inch centers, mortised and tenoned to ground sill and roof plate. The interstices are filled by the "wattle and daub" construction method brought directly from Europe by our first settlers and used by their descendants as late as 1800. Horizontal lath were fastened between the posts and mud or clay mixed with salt hay thrust about them to the thickness of the posts. When dry the inner surface was plastered with one coat, in some cases two, with lime and sand plaster. The exterior had first been clapboarded. This construction, without the clapboards, is the "half-timbered" construction of Europe and was tried here at first. But due to the more severe nature of our climate and the cheapness of wood for clapboards, the latter came into general use as a covering, rather than the picturesque plastered surface.

To many, this kitchen possesses more of the charm of an ancient home than any they have seen. The great brick fireplace, spanned by the oak mantel beam seems forever to send out a warm glow, the semi-circular brick oven, now blocked up but easily restored, again sends out a tantalizing aroma, the low hanging floor beams, hewn with a broad ax from neighboring forests, are scarce six feet from the floor, the dresser and cupboard shine with their array of china and earthenware, and the low batten door to the "linter" woodshed and store room invites you to gaze on the supplies laid up for the winter.

This "linter," or lean-to is the second addition to the house. It was evidently built solely for storage purposes as it is unfinished. It affords a splendid opportunity to study early wooden construction as the walls and framing of the kitchen are exposed. The sweeping roof of this lean-to reaches within four feet of the ground, an easy jumping distance for the house cat which to this day uses this way to enter the tiny window on the second floor. Artists and visitors find this sweeping roof a picturesque part of the old house.

The last addition to the old stone house was built about 1790 by one of the Cubberlys, possibly James, who was owner at this time.

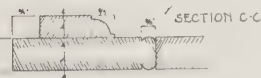
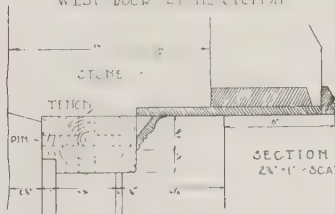
PLATE VIII



WEST DOOR - FRONT SECTION

NORTH DOOR - FRONT SECTION

WEST DOOR - FRAME SECTION



DETAILS :
BRITTON COTTAGE



FIG. 1. WEST
DOOR STONE
SECTION, c1675



FIG. 2. KITCHEN FIRE PLACE, c1700



Photographs by L. McMillen, 1931

FIG. 3. FIRE PLACE STONE SECTION, c1700

I have chosen the date 1790 after careful consideration of the architectural details such as doors, windows, gable dormers, and ceiling heights which are of this period.

This addition is a hewn frame, clay filled and shingled structure, and follows the lines of the stone section. Shingling the outside with three foot white cedar, hand riven shingles introduced a third type of surface to the house in addition to the clapboarded and stone surfaces of the older parts. This flaunting of architectural conservatism was not at all uncommon among our early builders. Their versatility in building methods was as general as their ability to spell their names in several ways, though, we must admit, far less confusing.

The first floor plan of this addition is two rooms one front and one rear, with a door entering the old hall from the front room. The floor level is six inches higher than that of the old section, as the kitchen floor is, in turn, fourteen inches lower than the stone section. The front room is the parlor and is a dignified room whose effect is heightened by the exposed beams, and four paneled doors of the raised panel type. The fireplace appears to be an 1820 replacement. The rear room is similar, except that it has no fireplace and has a later built-in closet in one corner.

The floor above these rooms is divided similarly into two rooms, a division which took place about 1830, as indicated by the patent latches and hardware on the doors. These rooms, and the others on the second floor, are used by the Custodians. The bath room was installed for their use about 1915 or a short time earlier.

Evidently the original northerly stone wall of the old stone section was torn down when this last section was constructed and a mud filled partition built in its place. The stones were used in forming the cellar walls beneath the new addition, the only cellar beneath the house.

Two windows now closed up by the raising of New Dorp Lane formerly admitted light to the cellar.

Little is known about the former arrangement of the farm and its outbuildings. The lot on which the house stands appears to be the old homestead plot and was surrounded partly by a picket fence and partly by a horizontal board fence. The Spies painting of 1848 shows a well in the southerly corner of the house lot and a barn to the south-easterly towards the shore. At this time it was

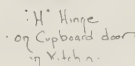
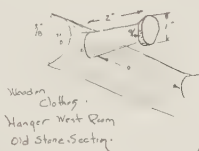
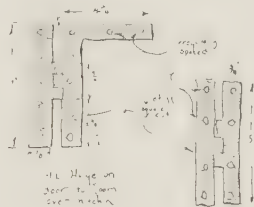
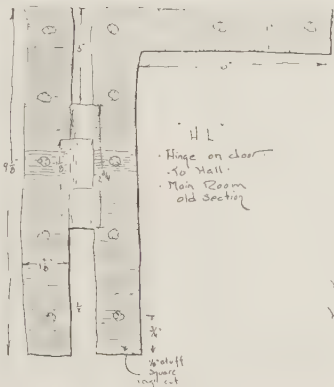
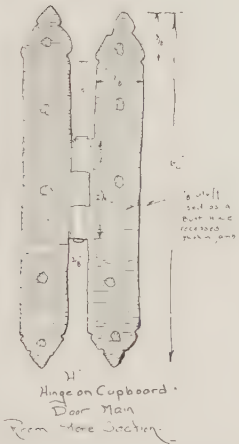
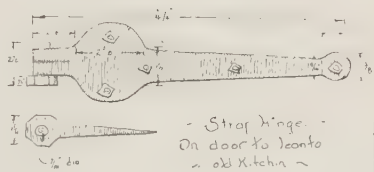
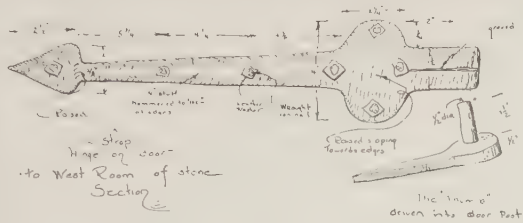
known by the name of "The Cedars." The abundance of this lovely and vanishing tree on Staten Island is still remembered in this section in the name of the Cedar Grove Beach Colony and Cedar Grove Ave. Perhaps 30 or 40 of these trees still make a stand in this colony. From the photographs we can see what a beautiful section this was as late as 1910 when a rapidly growing beach colony swept away the last vestiges of the old farmland.

This ends the description of the old Cottage. Little has been said of its former occupants, with the exception of Obadiah Holmes, largely because little is known concerning them. Genealogical notes are contained in the histories of Staten Island and yet these need some astute genealogist to close the gaps. They were yeomen or gentlemen farmers of English stock, filling minor local offices whenever their neighbors thought them capable, and like thousands of others making up the backbone of a growing nation.

Their descendants are numerous and some like Dr. Britton, have achieved world wide fame in their chosen fields. Many, particularly Mr. W. R. Britton, of East Orange, New Jersey, keep up an intensive interest in the old house. To them, and to the Works Progress Administration, who in the spring of 1939 with the aid of funds provided by members of the Staten Island Institute, re-shingled the roof, restored the dormers, and made other repairs, the public owes a debt of gratitude. To the Daughters of the American Revolution for the house furnishings, and to the Women's Auxiliary of the Institute for money for the roof and the picket fence thanks should also be given. The interest taken by the present Custodians, Mr. and Mrs. J. Wilson, should also be mentioned.

And lastly, it would be faint praise indeed which did not leave the way open for means of earning more. Further restoration and improvement should be undertaken to render the old structure authentic and sound. The Dutch oven and missing shutters should be replaced, floors and windows restored, and 1900 front and kitchen doors replaced with authentic early examples, and many other items of importance undertaken. When this is accomplished the Britton Cottage can rightfully take its place beside those splendid examples of early domestic architecture throughout the country, which have been saved through public and private assistance.

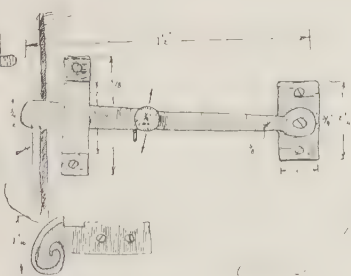
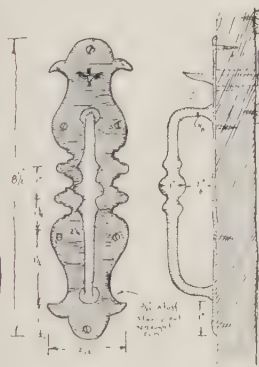
PLATE X



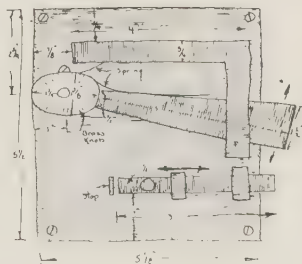
~ HARDWARE ~

• Britton College
New Dorp
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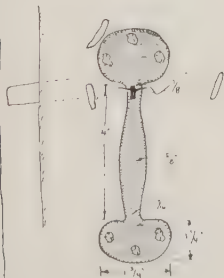
Measured on Oct. 18 August, 63 Young #1111



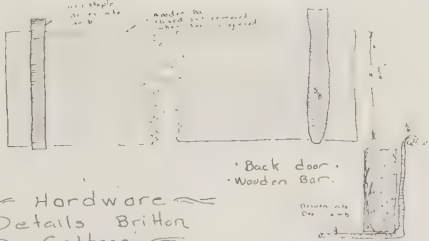
- Latch on door bedroom, New.
- Section:



- 1st. h. of floor.
- To Bedroom at head of
- stairs New section.



* Main Chamber.
 Latch on.
 Door to.
 South Chamber old
 section.



Hardware
Details Britton
Cottage

Edward C. Delavan, Jr.

CHARLES W. LENG

On December 7, 1939, Edward Close Delavan, Jr., died in his 82d year, following a long period of illness. Mr. Delavan was born February 26, 1858, the son of Edward Close Delavan and Margaretta Bryson, of Huguenot, English and Scotch ancestry. He was educated at Rutgers University (B.A. 1880; M.A. 1883) and at Columbia (LL.B. 1882); he was a distinguished and honored member of the legal profession for over fifty years. He was unmarried.

Mr. Delavan was one of the founders of the Natural Science Association of Staten Island on November 12, 1881; a member of the committee on incorporation in 1905, and a life member since 1924. His interest was manifested in a series of historical papers, remarkable for their accuracy, the result of long continued, painstaking research. A list of those published is appended. Many more remain in manuscript, some being the basis of the Report printed in our Proceedings in 1915.

Mr. Delavan's association with his fellow members was characterized by enduring friendships, a magnificent generosity in freely imparting his information, and a deeply rooted love of truth and honesty.

A considerable number of the abstracts of title to Staten Island land prepared by Mr. Delavan, together with a considerable portion of his library are now in the museum of the Historical Society at Richmond.

PROCEEDINGS OF THE NATURAL SCIENCE ASSOCIATION

- | | |
|--------------------------------|--|
| Vol. II, p. 79, May 9, 1891 | —Letter referring to Indian Deed of Staten Island, 1670. |
| Vol. VI, p. 23, April 10, 1897 | —A Castleton Boulder Line. |
| p. 28, May 8, 1897 | —The First English Grants of Land on Staten Island. |
| p. 31, June 12, 1897 | —The First English Grants of Land on Staten Island. |

- Vol. VII, p. 15, May 13, 1899 —The Early History of
St. Andrew's Church
Yard.
p. 35, March 16, 1900 —Colonel Francis Lovelace
and his Plantation on
Staten Island.
p. 47, " " " — (Special No. 22) do

PROCEEDINGS OF THE S. I. ASSOCIATION OF ARTS AND SCIENCES

- Vol. I, p. 45, April 21, 1906 —Flint.
Vol. II, p. 23, January 18, 1908 —The Marble House.
p. 45, " " " —Map of Gov. Tompkins'
Property, July 16,
1819.
Vol. III, p. 37, October, 1909 —The Disputed Claim of
the Proprietors of East
Jersey to Staten Island.
p. 51, Oct. 16, 1909 —Early Settlers of Staten
Island. (Not printed.)
Vol. VI, pp. 1-66, October, 1915 —Report of Committee on
Historical Tablet, E.
C. Delavan, Jr., chair-
man, with list of Dela-
van mss. on p. 64.
pp. 113-139, February, 1916—The Guyon House.
Vol. VII, pp. 22-29, January, 1918 —Old Court Records of
Richmond County.
1924 Condensed History of Staten Island. (With Chas. W. Leng.)

How to Cook the Extinct Wild Pigeon, a One-time Staten Islander

WM. T. DAVIS

In early days Wild or Passenger Pigeons were of common occurrence on Staten Island, and the best ways of preparing them for the table were naturally of interest to the house-keeper. In April, 1759, in one day 75,000 wild pigeons were brought to the market in the city, selling at fifty for one shilling, according to a record in the: "Manual of the Corporation of the City of New York," 1869, p. 852.

So the wild pigeon received much consideration in the old-time cook books, and Doctor William Kitchiner in: "Cook's Oracle and House Keepers Manual," published by Harpers in 1830, gives considerable space to pigeons both tame and wild. The "*Cook's Oracle*" states that: "When the pigeons are ready for roasting, if you are desired to stuff them, chop some green parsley very fine, the liver, and a bit of butter together, with a little pepper and salt, or with the stuffing ordered for a fillet of veal, and fill the belly of each bird with it. They will be done enough in about twenty or thirty minutes; send up parsley and butter in the dish under them, and some in a boat, and garnish with crisp parsley, or fried bread crumbs, or bread sauce, or gravy. . . . Pigeons are in the greatest perfection from middle summer to Michaelmas; there is then the most plentiful and best food for them; and their finest growth is just when they are full feathered. When they are in the pen-feathers, they are flabby; when they are full grown, and have flown some time, they are tough."

Miss Leslie's: "New Receipts for Cooking," appeared in 1854, and it also, like every good cook book of the time, mentioned the wild pigeon. A copy of this interesting old book, that not only tells how to cook pigeons, Indian Slap Jacks and Indian Flappers, but also how to wash silk, save stair-carpets, what to do in: "Relief for Corns," as well as much else, was fortunately preserved by the Clark family in the old Guyon-Clark homestead, that stood until 1925, near what is now Guyon Avenue, Oakwood. To Miss S. Gertrude Clark we are indebted for the volume, and are thus enabled to tell you further how to cook the extinct Wild Pigeon.

Pigeon Soup may be made in the same manner as Duck Soup, says Miss Leslie. "It will require one dozen tame pigeons, or two dozen wild ones. Wild pigeons may be made very fat by catching them alive in nets, at the season when they abound; clipping their wings to prevent their flying away; putting them into a field where there is a stream of water convenient for them to drink, or into a large yard; and feeding them twice a day with corn. When fattened in this manner, they will be found profitable articles for sale; the objection to wild pigeons being that they are usually so poor and lean."

Another way of preparing pigeons is given under, Pigeons with Ham. "Take fine fat tame pigeons. For stuffing, boil some chestnuts till quite soft; and having peeled them, mash or pound them smooth. Mix with them a little fat of cold ham, finely minced and pounded. For chestnuts, may be substituted boiled sweet potatoe, mashed with butter. Fill the pigeons with the stuffing, having first slightly peppered their insides. Cover them with very thin slices of cold ham (fat and lean together), and wrap them in fresh vine-leaves, tied round with twine. Put them on a spit, and roast them three quarters of an hour. When done, carefully remove the strings, and serve up the pigeons, still wrapped in the ham and vine-leaves. They will be found very nice.

"Partridges and quails may be drest in this manner.

"Wild pigeons are so seldom fat, and have so little meat upon their bones, that except for soups and gravies, they are scarcely worth buying. In places where they abound, they may be turned to good account by catching them in nets; clipping their wings; and keeping them in an enclosure till they are fattened by feeding them well with corn, or Indian meal moistened with water. When managed thus, they will be found quite equal, if not superior, to tame pigeons."

Miss Leslie also recommends a pigeon pie.

Putting the pigeons on a spit and roasting them for three quarters of an hour, turning them meanwhile, can be accomplished with one of the old Dutch Ovens, such as are on exhibition in the Museum of the Staten Island Historical Society. In: "A Nice Way of Cooking Game," Miss Leslie recommends the use of a Dutch oven.

In the Council Minutes, March 17, 1664, there is recorded a: "Judgement against Manuel Sanderson, negro, fining him six guild-

ers and costs because his son had been found shooting pigeons in the woods on Manhattan Island on Sunday, contrary to law."

As the country became occupied the great flocks of pigeons were increasingly slaughtered, and accordingly became scarce until they were news in our local papers. In the Richmond County Gazette, for September 30, 1863, we find under: "Sporting—Our woods and meadows at the present time afford some fine opportunities for sportsmen in the way of pigeons, high-holders, robins, etc., the game laws having expired during this month. Some few ducks have been shot upon Silver Lake.

"The early boats from the city, also, are crowded with fishing parties, who often return at evening with full baskets; and we have seen one or two handsome strings of pigeons, as rewards of a day's shooting."

In the same newspaper under date of October 11, 1876, is the statement that: "While Mr. Israel Journeay was hunting a week ago in this locality (Eltingville), he shot fourteen high-holders and six wild pigeons."

About 1875 or 1876 the late Borough President, Calvin D. Van Name, saw a flock of wild pigeons at Old Place, as recorded in "Staten Island and Its People." It was also about this time that the writer saw a pigeon in the wooded part of Clove Valley that he thought to be a wild pigeon.

The breech-loader and its manifold improvements, according to H. W. De Long, in *Frank Leslie's Popular Monthly* for January, 1885, was a considerable factor in the slaughter of wild pigeons. Sportsmen's clubs sprang up everywhere and there was a revival of trap shooting. "Spies were out watching the location of the roosts, and when these were well established, the main body came on, armed with nets and stool-pigeons. Hundreds of thousands of these birds would be taken, packed into crates, and shipped to sportsmen's clubs all over the country. If they survived the stifling coops, it was only to meet a more ignominious death, as they sprang from a plunge-trap, with freedom just before them, or were filled with shot and left to die a lingering death beyond the bounds. This could not last long. The pigeon grew more and more wary as his ranks were thinned. Further and further back he nested until today the shattered remnants of the once mighty hosts have left the haunts of civilization probably for ever?" The question of 1885 was answered

some years later when the last-known living passenger pigeon died in the Cincinnati Zoo at the age of 29 years, at 2 P. M., September 1, 1914, and thus perished from the earth what Edward Howe Forbush considered in "some respects the finest pigeon the world has seen."

The Blazing Star or Button Snakeroot on Staten Island*

WM. T. DAVIS

Herbarium specimens of the Blazing Star, *Lacinaria* (*Liatris*) *spicata* L. were shown by the writer at a recent meeting of the Staten Island Nature Club. This interesting and beautiful species may attain a height of five feet, and its long wand-like spike of purple flowers, make it one of our most conspicuous plants. Curiously enough the growth of the plant is well advanced before the flowers in the spike commence to blossom, and then, starting at the top, they blossom downward. The species was recorded without definite locality in "The Flora of Richmond County," published in 1879, by Arthur Hollick and N. L. Britton. The statement reads: "State Flora and Elliot Collection." In the Flora of the State of New York, 1843, Dr. Torrey recorded it from the "Borders of a swamp on Staten Island about three miles from the Quarantine." He further states that the root is a "popular medicine being employed as a tonic and diuretic. It is one of the medical articles sold by the Shakers."

In August, 1891, and again in August, 1895, specimens were collected at Mariners' Harbor on the edge of Lawrence or Bridge Creek Meadow. These were recorded in: "Additions and New Localities," published in the Bulletin of the Torrey Botanical Club, November, 1895, p. 461. In later years other specimens were collected at the same locality, the only one known on the Island; some as late as September 15, 1927.

As the railroad company has filled in for new tracks, especially the branch to the Gulf Refining Company's tanks, it was feared that this interesting plant might not be faring well. Search was therefore made for it at the locality mentioned, on September 2, 1939, and many plants were found, especially in one large colony close to where the meadow meets the upland.

* The occurrence of the Blazing Star on Staten Island was mentioned in the Museum Bulletin for November, 1939.

As early as 1843, Dr. Torrey mentioned that the flowers of *Liatris* are rarely white, and this form has been noted by others, but has not been found on Staten Island.

In an uncompleted manuscript of a list of Staten Island plants, deposited in the Staten Island Institute by Dr. Britton and Dr. Hollick, is the statement that the Large Button Snakeroot, *Lacinaria scariosa* L., was found near "Clifton prior to 1879; since exterminated."

Natural History Records from the Meetings of Staten Island Nature Club¹

WILLIAM T. DAVIS

The meeting of September 24, 1938, was held in the Public Museum.

The members reported their summer experiences.

Mr. and Mrs. George B. Wilmott had been in the region of Great Smokies of Tennessee, and to the mountains of North Carolina. A Spiny Soft-shelled Turtle (*Trionyx spiniferus*) from Tennessee was exhibited. Mr. Wilmott stated that the Cumberland Turtle, a southern species, has become established in several sections of New York State. A series of wooden plates purchased from and made by Tennessee mountaineers was shown. The plates were made from a number of different kinds of wood, including walnut, maple, cherry, mulberry and gopher or Kentucky yellow-wood. Mr. Joseph F. Burke pointed out the interesting play of color shades that could be observed by holding the plates at different angles. At Grandfather Mt., N. C., Mr. Wilmott had secured *Plethodon wehrlei* at an altitude of about 5,000 feet. On the same mountain he had found additional specimens of Wright's salamander (*Desmognathus wrighti*). At Davis Gap, Lee Mountain, near Waynesville, N. C., he collected *Leurognathus marmorata intermedia*. In all, he was able to find during the summer, four species of salamanders which he had not seen before.

At Coram, Long Island, Mr. Wilmott had found four marbled salamanders, in the well of a cellar-window.

A medium-sized box turtle, found in the vicinity of Stapleton, was turned over to the Museum Zoo by Miss S. E. Hurlbut.

Mr. Wm. T. Davis showed preserved fresh-water jelly fish. On September 2, 1938, Alan P. Grimes and his brother Ralph brought many living specimens to the Museum, where they were on exhibition for about a week. This is the sixth consecutive year that they have been found in Brady's pond by members of the Grimes family, and others interested in our local natural history. Though known

¹ These records have been compiled largely from the minutes of the club, Hans L. Stecher and John Koestner, secretaries.

from Regent's Park, England, this interesting and beautiful little creature was first recorded in America in 1885. The species has since been discovered in a number of localities east of the Rocky Mountains, but as far as we are aware Brady's Pond has the distinction of having the most persistent colony.

The female mud-turtle, *Kinosternon bauri*, collected at South Jacksonville, Florida, September 7, 1913, when she was fully grown, and kept at 140 Stuyvesant Place for the past 25 years, was shown. She has been fed bits of meat, and no doubt, in summer, a few insects have fallen into the large bowl where she has been kept, in shallow water with provision for her getting on a stone to dry off when she desired. Photographs of the turtle taken by Mr. Ralph De Sola in 1937, and by Carlton Beil of the Staten Island Institute, in 1938, were also shown. On Staten Island, the allied species, *Kinosternon subrubrum* occurs. It has usually been found at Watchogue on the edge of the meadows, as well as near Weir's Mill Creek at Richmond Valley. On September 3, 1938, Mrs. Ralph W. Nauss discovered a male of this species near a ditch and a *Phragmites* swamp, in the woods to the west of Bay Terrace. The specimen was carefully examined, but not otherwise molested.

The old white maple tree at 140 Stuyvesant Place, which during the years has harbored many interesting insects and fungi, as well as several species of Myxomycetes, died during the middle of August. The last green leaf was collected August 17. The tree was planted about 1870.

On the grounds of the Museum, the leaves on the old horse chestnut tree were badly eaten by the Japanese beetle, especially on the southerly side of the tree. Nuts from the tree were shown, and the 58 borne on the southerly side were usually very much smaller than the 18 found under the branches on the northerly side of the tree that received less attention from the beetles.

Mr. Carlton Beil gave a description of his vacation in New England, and related his experiences with a tame crow, showing a number of photographs.

Mr. I. C. G. Cooper visited Woods Hole, Mass., in quest of marine Algae, and had there met Dr. Taylor, a well known student of the group. He also mentioned a colony of Polistes wasps that had sought the protection of his home, 280 Bidwell Avenue, Westerleigh, where they had constructed their nest. He and Mr.

Stecher had photographed the nests, showing some grubs and 13 adults.

Mr. Howard Cleaves had visited the Adirondack Mountains, bent on securing wild life motion pictures. Among the most interesting creatures were four otters seen at Kathleen Lake, New York.

Mr. Hans L. Stecher reported the receipt of a worm-snake (*Carpophis amoenus*) from our fellow member, Mr. Peter Crowe, who had collected it in June, 1938, in a marsh near Travis, under a package of old newspapers on the ground near a dump-heap. The snake had been kept alive for some time, but when it died it was placed in formalin and is now in the Museum's collection. The worm snake is an addition to the species of serpents known to occur on the Island.

The meeting of October 22, 1938, was held in the Public Museum.

Mr. Charles W. Leng showed the folder recently issued by the Inter-Museum Council of New York entitled: "Museum of New York, Including Botanical and Zoological Gardens and the Aquarium." On the folder is the statement: "These museums offer opportunity for recreation, for study, for pleasure, and for greater understanding of the world in which we live." The Museum of the Staten Island Historical Society; that of the Staten Island Institute of Arts and Sciences, as well as the Staten Island Zoological Society's collection in Barrett Park, are mentioned. The Manhattan Island, Bronx and Long Island institutions are located on a map.

Mr. George B. Wilmott exhibited a Hog-nose snake from Boonton, New Jersey, also a red-backed salamander (*Plethodon cinereus*) with albino tendencies. While the eyes were black, the skin was almost devoid of pigment, and under the microscope the blood circulation could in part be observed. The specimen was discovered at Bethel Ridge, near Catskill, Greene County, N. Y., October 8, 1938.

Mr. Wm. T. Davis exhibited a copy of a paper on: "Fresh-Water Jellyfishes," published in the *Bulletin of the New York Zoological Society* for March, 1924, and recently presented to him by its author, Captain Thomas I. Miller, of Annadale, Staten Island. Starting with the discovery of *Craspedacusta sowerbii* Lankester, in Regent's Park, London in 1880, the several discoveries of Fresh-

Water Medusae in Europe, Africa, Asia and America to the year 1924, are recorded. As medusae have appeared in Brady's Pond, Staten Island, every year from 1933 to 1938 inclusive, Captain Miller's paper is of particular interest to local naturalists.

Mr. Davis stated that the cicada, *Tibicen lyricen* had appeared on the Island in some numbers, it evidently being a brood-year for the species. He had found it near Oakwood and Richmond, and on the area surrounding his home at 146 Stuyvesant Place, St. George, four dead individuals had been discovered between July 31 and August 12. Also several had been heard singing. Thirty-seven *Tibicen chloromera* had also been found dead during the summer between August 6 and September 5 at 146 Stuyvesant Place, while three others were taken from the large ground hornets, or cicada killers, that occasionally appeared. Ninety-nine pupae skins were discovered, and it was evident that the nymphs had fed on the roots of the privet, lilac and syringa (*Philadelphus*) bushes, as well as on some of the trees.

Mr. Davis showed a young shoot found growing at the base of one of the ginkgo trees in the small park near the Borough Hall at St. George, to which his attention had been called by Mr. Joseph F. Burke. As often happens in other rapid growing plant shoots from robust roots, the usual lobes or clefts of the leaves borne by the older branches of the *Ginkgo biloba* had been greatly exaggerated, and the central cleft appearing as a slight notch on the margin of the mature leaves, was here extended nearly to the base of each blade.

At the meeting of the Nature Club held September 24, 1937, it was reported that about six katy-dids, *Pterophylla camellifolia* had been heard singing on the westerly side of the Clove Road, West New Brighton. This fall Mr. Robert C. Meyer, Jr., of 942 Post Avenue, West New Brighton, heard a katy-did near the same locality. Why this once common species should have become rare on the Island, while the angle-winged katy-did is still to be found, even in the gardens at St. George, is an entomological mystery. It is known that the true katy-did disappeared many years ago from the vicinity of Brooklyn, even in the forested areas.

Mr. Edward Avis, the bird imitator and musician, and one-time resident of Staten Island, reported seeing a flock of blue birds near the home of Mr. and Mrs. Stryker. The announcement was made

that Mr. Avis would give some of his clever bird song imitations the following afternoon at the Barrett Park Zoo.

The meeting of November 26, 1938, was held in the Public Museum.

At this meeting we had as guests some members of the Newark Museum Nature Club. Mr. Joseph F. Burke showed a copy of the recently published "Insects of North Carolina," by C. S. Brimly, which had been received by the Library of our Institute.

Mr. I. C. G. Cooper showed two nests of *Polistes* wasps, which have built for several years under the eaves of his home. This year the wasps stayed about the nests later than usual.

Mrs. George B. Wilmott reported the finding of hundreds of curly grass ferns among the white cedars at Martha, New Jersey, where they were growing with other pine barren plants.

Mr. Carlton Beil reported on a visit to the Bird Sanctuary at New Springville by members of the Junior Nature Club on November 26.

Mr. Charles W. Leng exhibited a branch of Cedar of Lebanon, the gift of Mrs. T. S. Poole, of 4849 Hylan Boulevard, together with photographs of the trees and of Mrs. Poole's home, made by Mr. Davis. The trees are of interest, being of the species growing in Palestine, which attain great age; the cones especially are remarkable, requiring two years for development. The trees shown in the photographs are probably nearly 100 years old, for the history of the house shows that about 100 years ago it was in the possession of Samuel Akerly, described by Dr. Hollick as "Staten Island's First Resident Naturalist" (*Pro. Nat. Sci. Assn. of S. I.*, vol. ix, April 15, 1905). Dr. Akerly died in 1845, having bought the property which he called "Oakland Farm" from Judge John Garretson. After his death it passed into the possession of Frederick Law Olmsted, the landscape architect of Central Park. Olmsted, who was born in 1822, travelled extensively abroad about 1850, studying trees, and lived until 1903. It is possible that the trees were planted by Dr. Akerly, but more likely by Olmsted.

The later history of the property leads through Dr. Wm. C. Anderson, to Erastus Wiman, by whom it was called "Woods of Arden." Under that name it was described in the *Richmond County Gazette* by a son-in-law of Dr. Akerley, July 20, 1887.

Mr. Wm. T. Davis read a letter from Roy Latham, of Orient, Long Island, in which he stated that the hurricane of September 21, 1938, had blown down three large barns and crushed three tractors; had taken the roofs off two houses, uprooted 36 trees in his own garden and over 2,000 in the town of Orient. Most of his farm was flooded with salt water, which was two feet deep on the lawn, a half mile from the bay. "Hundreds of sharp-tailed sparrows were killed and washed up with the tide." Photographs were shown of his wrecked barns, and the salt water over the potato lands, taken just before dark after the hurricane had passed. Mr. Latham also sent the "Record of the Storm in Picture and Story," published by *The County Review*, Riverhead, Long Island, September 29, 1938, in which 70 photographs are reproduced.

Mr. Davis showed herbarium specimens collected September 27, 1938, from the two large hybrid oaks, *Quercus heterophylla* standing to the north of the railroad station at Richmond Valley, and described in the *Proceedings of the Staten Island Institute of Arts and Sciences*, vol. 1, p. 55, plate 3. October, 1918.

Mr. Davis showed a pigeon hawk, *Falco columbarius*, found by him near Richmond on November 7. It had been shot through the body by a single shot or bullet. This is, especially in the fall, one of our rarer hawks. He also showed two boxes of insects illustrating the fact that the fly *Coenomyia ferruginea* occurred in certain localities closely associated with the Seventeen-Year Cicada, both in 1928 and 1936, as recorded in the *Journal of the New York Entomological Society*, September, 1938. The larva of *Coenomyia* is known to be predaceous.

In reference to the report by Mr. Wm. T. Davis on the Pigeon Hawk, Dr. James P. Chapin explained the characteristics of this bird, and pointed out the difference between the falcons and the true hawks.

Motion pictures, reels of the life histories of butterflies, sea urchin, frogs and other creatures, shown by Mrs. G. B. Wilmott concluded the meeting.

The meeting of December 23, 1938 was held in the Public Museum.

Mr. Joseph F. Burke referred to a new salamander, *Plethodon richmondi*, from West Virginia and Ohio, recently described by M.

Graham Netting and M. B. Mittleman, in the *Annals of the Carnegie Museum*, Vol. xxvii, December 8, 1938.

Little clay pots made by *Eumenes*, the Potterwasp, were shown by Mr. Carlton Beil. They were found on a bush near Mt. Manresa on the occasion of the last walk of the Bird Club.

Mr. Wm. T. Davis showed three specimens of the large cockroach, *Leucophaea maderae* Fabricius, a West Indian species, given to him by Dr. George F. McKenna, of the Boyce Thompson Institute, Yonkers, N. Y., who reported it well established in the Bird House at Bronx Park. In the *List of the Insects of New York*, another species, the Surinam cockroach, is recorded as established in the New York Zoological Society Reptile House in Bronx Park, where it was found in numbers in 1914, including the only male of the species so far recorded from the United States. The list of the cockroaches of New York State now includes 12 species. It was also pointed out that in identifying the American Cockroach, *Periplaneta americana*, care should be taken not to confuse it with *Periplaneta brunnea*, which it closely resembles.

Mr. Davis also showed ten species of Cicadas sent to him from Ohio, six of which are to be found on our Island. We do not have in New York state the large species known as *Tibicen marginalis* Walker, which in Ohio specimens has the margin of the front wings and the pro-thorax green, together with rash-like marks on the meso-thorax. Further west and north west a variety of this species, described in 1938 as *pronotalis*, having a conspicuous black spot on the prothorax, is not uncommon. Nor do we have on Staten Island or in the state, *Tibicen robinsoniana* Davis, which resembles our *Tibicen linnei* S. & G., but which has a very different song, much resembling the performance of some katy-did like insect. This species and its song is described at length in: "Notes on Some Cicadas in Virginia and West Virginia," by H. A. Allard, *Journal*, N. Y. Entomological Society for December, 1938.

Mr. Peter E. Crowe presented the following: While collecting in the vicinity of New London, Connecticut, two specimens of red-backed mice were taken at Waterford. The data for these specimens follows:

No. 338. *Clethrionomys gapperi gapperi*—female.

T. L.—126 T.—37 H. F.—18 mm.

Vag.—open. Caught 11 A.M. 3 fetuses.

Runway in stone wall, low, wet pasture. August 15, 1938.

No. 343. *Clethrionomys gapperi gapperi*—male.

T. L.—139 T.—45 H. F.—19 mm.

Testes large. Caught after dark.

Runway in stone wall, low, wet pasture. August 16, 1938.

Since the red-backed mouse had never been collected in the southern part of Connecticut, these specimens are of great interest. Goodwin, in "Mammals of Connecticut," says that specimens of *Clethrionomys* have been collected in the north-eastern portion of Connecticut in the highlands, and he expresses a belief that further collecting will disclose specimens from other sections as well. These two specimens serve to sustain his opinion in part at least.

Clethrionomys is apparently very local in distribution in this vicinity, and rare even when located. Continuous trapping for several weeks failed to disclose more specimens of this species, although more than fifty *Peromyscus* and *Blarina* were taken in that district.

This being the Christmas meeting of the Nature Club, the illustrated "Uncle Toby" books were shown. Mr. Adolph W. Callisen is no longer able to attend our meetings or prepare a Christmas book. Mr. Davis had visited him recently.

The meeting of January 28, 1939, was held in the Public Museum.

Miss Emily O. Long spent the last week of December in Florida, and exhibited a considerable number of plants collected during her stay.

Mrs. K. O. Nesslinger exhibited a red-pepper plant grown in her garden, the green fruit of which was exceedingly pungent, as those who tasted it willingly testified. Mrs. Nesslinger reported a number of birds at her home on the Fingerboard Road, including a pair of resident cardinals.

Mrs. Ralph W. Nauss related her experiences with slime molds. In two Petri dishes she had kept three different species, two in water, the third on wet blotting paper. All were placed over the radiator to keep them warm. They were left too long; two disintegrated but one retained form and color and looked like the living plasmodium.

Mr. Howard Cleaves, after a prolonged absence, had many tales

of interest regarding natural history subjects. He had travelled 14,000 miles since he left on October 12, returning December 23, 1938. He visited all of the Pacific coast states and saw many birds, among others mentioned the so-called white-necked raven, but claimed that the white was obscure. In Oregon he visited a cave which is open from the ocean, and comparable in size to the Madison Square Garden in New York City. It is used as headquarters of several hundred of the largest sea lions in the world, some being 10 to 11 feet in length.

The most unexpected news was regarding sea-otters, which by some naturalists were supposed to have become extinct on the California coast about 1921 or 1922. In March, 1928, Highway 101 was opened along the coast, and a man at the filling station near Bixby Creek began seeing some strange looking animals near the entrance to the creek, animals that remained in the water among the large clumps of sea-kelp and did not come ashore. He notified the scientists of the Pacific Biological Institute. The description that he gave fitted that of sea-otters, but they the scientists were convinced were extinct. But reports persisted until it was investigated with the result that 75 to 80 sea-otters were counted among the kelp beds near the coast from whence came the reports. This discovery caused the greatest sensation in mammalogy within recent years. Mr. Cleaves referred to an article in the February, 1939, number of the *National Geographic Magazine*, in which may be found full page illustrations depicting the strange lives of the sea-otters. Mr. Cleaves believes that among other things they feed on Abalone and possibly starfish. The reappearance of the sea-otter is also noted in the *Journal of Mammalogy* for August, 1938.

Mr. Wm. T. Davis stated that in the account of our local flora by Hollick and Britton, published in 1879, the Elecampane was reported: "Abundant near Garretson's and New Dorp." "Garretsons" is now called Dongan Hills, and apparently the showy Elecampane has been exterminated in that locality. In the *Proceedings of the Natural Science Association of Staten Island*, May 14, 1904, he had reported Elecampane as found near the old Morgan Road, not far from the Fresh Kill Bridge. Last summer it was discovered close to the ruins of the old Tysen house, near the Morgan Road, which road extended along the edge of the salt meadow from New Springville to the present Fresh Kill Bridge. The plant has also

been called Scabwort, Horse-elder, Yellow Starwort and Elfdock, and has been held in high esteem for its medicinal qualities. In 1843 Dr. John Torrey wrote that the root was a popular domestic remedy for colds. Dr. L. H. Pammel in his "Manual of Poisonous Plants," 1911, states that: "Inulin is obtained from *Inula heleniun*, a native to Europe and occasionally naturalized in the northern states. It is a mild tonic." A sweetmeat was sometimes flavored with the root of Elecampane. It has been said that: "at first Old World immigrants thought they could not live here without the plant on their farms."

Growing close to the walls of the old Perine house, 1470 Richmond Road, are numerous plants of the stately Indian Cup, *Silphium perfoliatum*, and while it is a native of America, it is closely related to the introduced *Inula*.

Mr. Davis also showed herbarium specimens of the Black Swallow-wort *Cynanchum nigrum*, collected August 17, 1938, close to the old house occupied by Mrs. Stephen Cutting at Rossville. This house is near the site of the one time Ross-Lyon home, where the plant was first found on the Island June 7, 1902, and reported in the *Pro. Nat. Science Assn. of Staten Island* as an addition to the local flora. The plant belongs to the Milkweed family, was introduced from Europe and has poisonous qualities.

The meeting of February 25, 1930, was held in the Public Museum.

Mrs. George B. Wilmott exhibited the first flowering Skunk Cabbages of the season as well as samples of horn, skins and hair of various animals used in class study in schools, etc. Mr. Hans L. Strecher observed that the hairs of some of the skins showed a distinctly wavy appearance, especially those of the goat and antelope, as well as some others. He remarked about the thickness of the rhinoceros skin and its close resemblance to wood, even simulating the fibrous structure. Dr. James P. Chapin, who has spent many years in Africa, especially in the Congo region, explained that while the dried skin of a rhinoceros may show such a structure, such is not the case with the skin when fresh. A modern bullet penetrates the skins of elephant, crocodile and rhinoceros in spite of the thickness encountered.

Miss K. S. Seaman remarked on the strange behavior of certain

Polistes wasps seen by her during the latter part of the summer of 1938. It was explained that they were probably preparing to hibernate, as it was too late for nest building.

Miss Bessie Blauvelt exhibited a portion of an Azalea bush, with a stem diameter of about one third of an inch, bent in a complete O-shaped loop. This interesting condition had no doubt been brought about through some accident. It was discovered during one of the recent walks of the Bird Club.

Miss Sally E. Hurlbut commented on the feathers that now adorn spring hats, and it was pointed out by Dr. Chapin that only those of chickens and other domestic birds are now used for such adornment, while formerly tropical birds, frequently rare ones, were shot in order to obtain the feathers. Actually the dyed feathers look quite as pretty as those from wild birds.

Mr. Wm. T. Davis showed several specimens of the large Angle-winged Katy-did found at St. George during the summer of 1938. The insect was also present in the same locality during the summer of 1937, as recorded at the meeting of the Nature Club, September 24, 1937. With the apparent extinction on the Island of a number of our large Orthoptera, it is pleasing to find that the Angle-winged Katy-did still exists.

Mr. Davis showed a water-color sketch of the old Lake Tide-mill and surrounding meadows, painted by W. R. Miller, August 3, 1891. In those days Bass Creek ran from Great Kill northward, and parallel to the beach, for a considerable distance. Storms and the Atlantic ocean have moved the beach inland and Bass Creek is no more, being for the greater part, filled with sand. This permits an easy access to the beach by the road leading close to the site of the old Tide-mill. What remained of the old wheel, shown in the picture, was cut up for fire-wood during the cold winter of 1933-34. One of the mill-stones is gradually sinking into the boggy meadow. The artist Miller, who also painted other Staten Island scenes, was the father of our member, Captain Thomas I. Miller of Annadale.

The meeting of March 25, 1939, was held in the Public Museum.

Mr. George B. Wilmott reported that the first wave of spring bird migration was under way, that Purple finches were in evidence at various places on the Island, and that Robins and Fox sparrows had appeared two weeks ago.

Captain and Mrs. Miller reported about two dozen Bluebirds at Annadale recently.

Miss Sally E. Hurlbut presented a bird which had been entirely skeletonized by ants or insect larvae. Even of the wing and tail feathers the shafts were all that was left, showing clearly the position of the primaries, secondaries and tertiaries in the wing. The skeleton was said to have been found in the Florida Everglades, probably in a deserted house. Dr. Chapin identified the skeleton as that of a Flicker.

Mr. Carlton Beil reported as signs of the season, Rusty blackbirds, Red-winged blackbirds, Grackles and Field sparrows, observed along South Avenue, Mariners Harbor on March 24.

Mr. I. C. G. Cooper had seen a flock of Waxwings on January 20.

Mr. Wm. T. Davis stated that he had heard Peeper frogs calling on March 6, at Annadale, and two Antiopa butterflies were flying about on March 24, one of them near the Borough Hall at St. George. This is not an early spring.

At the meeting of the Nature Club held May 24, 1920, and again at the meeting of September 23, 1933, the large Stag-horn Sumach, *Rhus hirta*, growing at 140 Stuyvesant Place, was referred to. This record sumach was 2 feet 2 inches in circumference in 1920, and when blown down in the storm of August 23, 1933, it was somewhat larger. A number of off-shoots of the parent tree are still standing, and lately the tallest was found to be close to 27 feet high and 17 inches in circumference. This sumach, which may attain a height of 35 to 40 feet, is not a common species on the Island.

Mr. Howard H. Cleaves reported a flock of 65 Canada geese observed directly over his residence at Pleasant Plains. He believed it probable that they are seen over that part of the Island only in foggy weather, when they do not fly with the same accuracy as to directions. A flock was seen under similar conditions on a foggy day in 1933 of which Mr. Wilmott also had a record. The geese probably came from the direction of Barnegat, New Jersey. Mr. Cleaves just returning from a lecture tour in the New England states, had found geese already in evidence in the north in spite of the snow and ice.

Mr. Cleaves then brought up what he termed the "Disagreeable subject of mosquito control." Agencies are active in destroying the natural beauty of the Island. He showed a number of photographs taken in several parts of the Island illustrating the damage thus far

done and more to come. Among the non-essentials is the straight-jacketing of brooks, the draining of natural ponds, marshes and the few remaining swamps. The two small natural cranberry bogs, that were of great interest to nature lovers, have also been destroyed. It was urged that the matter be brought to the attention of the responsible persons to have them stop further destruction.

The meeting of April 22, 1939, was held in the Public Museum.

Mr. Robert O'Connor showed skulls of an weasel and a cat and pointed out the differences. Dr. James P. Chapin remarked that the differences become less as the animals grow older.

Dr. Chapin also discussed the manner of skeleton preparation and pointed out the most practical method.

Mrs. George B. Wilmon reported for Mrs. Thomas I. Miller, a Brown Thrasher on April 22, and two Mourning doves, March 26. Mrs. Miller reported that the doves had even wintered about her home. Mrs. Wilmon also reported collecting Spring peepers in the Catskills. They laid eggs after being brought home. The tadpoles that hatched are being fed tropical fish food.

Mr. I. C. G. Cooper had visited the numerous plants of the Lower Celandine, *Picris scabra*, growing along the Willow Brook road on April 16, and found them in a flourishing condition.

Mr. Howard H. Chase again reported the presence of Cooper's Hawks at Pleasant Plains. They were first reported as breeding there in the spring of 1933, and their nest and young have been mentioned several times in subsequent years.

Mr. Wm. T. Davis read a letter received from Mr. Roy Latham of Orient, Long Island. Under date of March 27, 1939, he wrote: "I have been so busy all winter rebuilding the buildings, repairing machinery, cleaning up trees and other wreckage left by the great hurricane of last September that I have had no time to write letters."

"About 400 acres of farming lands were flooded by salt water during the September 21 hurricane. We are half a mile from the bay and the water came up to our house. The water was six feet deep in the woods bordering the foot of the land, and two feet deep in our garden and on the lawn. Great numbers of earth-worms were killed by the salt water. Every worm crawled out of its burrow and died on the surface where the salt water had covered the ground. A square section where there was an average number of

dead worms was checked off and the worms counted and found to be 360,000 per acre.

"Many dead Sharp-tailed Sparrows and some other birds were washed up in the trash left by the tide all over the farms and wherever trash from the salt meadows had been deposited by the tide.

"I found my fourth nest of the Sharp-shinned Hawk last Summer, for Long Island. This species is much rarer than the Cooper's Hawk as a breeding bird on the eastern end of Long Island, and is a late nester like the Broad-winged Hawk. A colony of Mourning Doves were found nesting in one wood lot near Greenport in May. Eleven doves were sitting on eggs or young the same day. Only an occasional pair have been found breeding around this section before this colony was discovered. We have one Catbird that wintered here this year. The fourth Orient record of one wintering through. Last winter we had a Towhee.

"A small bed of the Angel-wing clam, *Pholas truncata*, was found in a clay bank of one of our creeks this winter. It is the first time I have found this species on Long Island, but it has been observed by others.

"I added 46 species of moths new to my Long Island list in 1938, which did fairly well considering that the same ground has been worked over for so many years. I also added 48 new beetles to my Long Island list; among them were four specimens of *Elatер sayi* found in a log of *Robinia pseudo-acacia*. *Euscoma lathamii* Forbes, appeared more commonly here in 1938 and I took 30 specimens at my moth light. It is a well marked species."

Mr. Latham also sent photographs of a Woodcock's nest discovered on March 26, 1938, near Greenport, Long Island. On April 6 there was a fairly heavy snowstorm and the nest and eggs were photographed the next day. The birds had evidently turned around frequently in the storm during the night, as the hole in the snow was circular, five inches in diameter and five inches deep. As a result of the snow, a temperature of 35 degrees, and later a long driving rain, the eggs failed to hatch.

Mr. Davis showed several photographs of Woodcock's nests, and also those of the Mourning Dove, which occasionally lays its eggs in a nest on the ground, where, owing to their white color, they show conspicuously when no bird is on the nest. He stated that a Catbird had spent the winter and often visited the feeding station

at the home of Mr. and Mrs. McMillen of 7 Florida Terrace, Egbertville, Staten Island.

Miss Emily O. Long exhibited the following species of moss: Red-stemmed Bryum (*Bryum bimum*), found at "Woods of Arden," April 22, and the common Urn moss (*Physcomitrium turbinatum*), collected near the Lighthouse at Richmond, April 20.

Several of the members showed photographs of Staten Island scenery as well as those of animals and plants.

The meeting of May 26, 1939, was held in the Public Museum.

Mr. George B. Wilmott reported seeing the European Little Gull near Governor's Island, May 20.

Mr. I. C. G. Cooper showed an enlarged photograph of a beautiful winter scene in the woods near Willow Brook. The area has since been worked by tractors, and the scenery destroyed.

Mr. John Koestner showed several oak galls, and stated that our native large moths were becoming quite rare. The disappearance of the moths, and many other insects, is due to a great extent to the presence of the numerous electric lights, to which they are attracted and where they meet an early death.

Mr. Wm. T. Davis stated that many interesting objects had been dredged from the sea-bottom at Marine Park, Great Kills, and now lie on the beach of the filled in area. More Scallop shells (*Pecten irradians*) are now to be found on the beach than for many years past. Also there are interesting oyster shells of large size. Some of the dredged up masses of clay have already assumed the common symmetrical forms of rocks that have been rolled about for ages on beaches, or by those found in river beds. An oblong, flattened form is quite common.

The May Apple or Mandrake, *Podophyllum peltatum* Linn., is not mentioned in the "Flora of Richmond County, New York," by Hollick and Britton, in 1879. In the 1880 supplement it is recorded as found: "Sparingly near Rossville," and in 1885, the nearby Pleasant Plains locality is given. Along Sandy Brook, extending from Lemon Creek westward through Pleasant Plains in the direction of Rossville, is so far the only locality on the Island where the plant has been found. Here there are at present considerable patches of Mandrake that cover the ground in early summer in a most pleasing manner. If a plant bears a fruit, or May Apple,

it has two leaves, but if there is no fruit, as happens in the majority of cases, the stem has but a single leaf. The form of these single leaves is of interest, some having six, others seven or eight lobes, and it is also of interest that the different colonies tend somewhat to belong to one or the other of these leaf forms. The medical virtues of our Mandrake were well known to the Indians of North America. While the ripe fruit may be eaten in small quantities, the roots, stems, and leaves are poisonous. In medicine it is used on account of its special influence upon the liver. A number of herbarium specimens of *Podophyllum* collected on the Island from 1905 to 1930, as well as photographs taken May 4, 1930, of some of the extensive clumps, were shown. Mr. Davis also showed some of the foliage as well as a photograph of a Virginia Pine, growing near Bloomingdale Road where crossed by a branch of Sandy Brook.

The meeting of September 23, 1930, was held in the Public Museum.

The Secretary, Mr. Hans L. Stecher, being away on leave of absence, the minutes of May 20, 1930, were read by Mr. John Koestner.

Mr. George B. Wilmott reported that the American Egrets are on the Arthur Kill shore of the Island again this year. Mrs. Julia B. Trench, whose home at 651 Arthur Kill Road, is on the edge of the meadows, also reported having seen the Egrets.

Mrs. Gladys H. Wilmott told of her trip during vacation, and said that she had found Moose, as well as Bears, in the National Parks quite tame. The Buffalo also could be approached very closely. Numerous photographs were shown, also a collection of cones, and it was demonstrated that the bark of the Redwood was very resistant to fire.

Miss Emily O. Long had seen a considerable number of Rattlesnakes during her vacation in Massachusetts. She commended the recent book by Mary Morse Rice, entitled "The Watcher on the Nest," as a good account of Song Sparrows.

Mr. Wm. T. Davis referred to the hybrid oaks discovered July 15, 1888, in the woods near the present Bedell Avenue and Hylan Boulevard. Many of the oaks can still be examined and they form what is perhaps Staten Island's most valuable botanical asset. A

considerable literature concerning the trees has appeared and each year they are re-examined. One of the many visits by the members of the Torrey Botanical Club occurred on September 10, 1939, and among the several crosses noted were those probably between the Willow oak and Pin oak or Scarlet oak, Willow oak and Red oak, and the Willow oak and Black Jack oak.

The acorns from these trees are fertile, and the fine oak in the Clove Lake Park, to be a feature of the new Nature Trail, resulted from an acorn from one of these hybrids planted there on October 27, 1888. A hybrid between a Willow oak and a Black Jack, known as *Quercus rudkini* Britton, was removed a number of years ago from the above mentioned locality to the grounds of the Museum building at St. George, and is now doing well.

Mr. Davis showed a copy of his paper on the: "Cicadas Collected in the Cayman Islands by the Oxford University Biological Expedition of 1938," published in the September number of the *Journal*, New York Entomological Society, as well as a collection of Cicadas from the three islands, which lie south of Cuba. Each of the islands has an endemic form.

Mr. I. C. G. Cooper told of his trip to Minneapolis and of the white appearance of some of the poplars. In Massachusetts he had collected 22 kinds of sea weeds in one half hour. He displayed beautifully prepared specimens of *Laminaria* and *Chorda filum*, and told how he had prepared these species of thick stems. Mr. Cooper kindly presented the specimens to the Museum's collection.

Mr. John Koestner showed a small green *Mantispa*, which may be *viridis*, a southern species, which he had found in his garden at Grasmere, September 23, 1939. The Mantispa though bearing a superficial resemblance to the Praying Mantis, belong to the Neurop-tera. The species recorded from the State of New York are *Mantispa brunnea* and *M. interrupta*, both recorded from Long Island but not from Staten Island. Mr. Koestner also showed the trunk of a small Sassafras tree, distorted in its growth by a tightly encircling honeysuckle vine. Bitter-sweet vines more often cause such cork-screw shaped distortions.

Mr. Carlton Beil reported on a Box-turtle he had found, and the first one in his experience to show any signs of temper and a tendency to bite. The shell about the head had been gnawed, presumably by mice. He reported that he had lately found a great

number of orange-striped anemones on our shore; also he showed some mushroom spore prints, explaining how he made them.

Mr. L. A. Ellison showed a number of Ascidians of the genus *Molgula*, found on the screen of the intake at the Power House at Livingstone, September 7, 1939.

The meeting of Friday, October 27, 1939, was held in the Public Museum.

For the election of officers for the coming year, Mr. Davis, as chairman of the nominating committee, expressed the regret of the committee that Mr. George B. Wilmott felt unable to accept re-nomination, and Mr. Wilmott also recommended a change in the chair. Mr. I. C. G. Cooper was nominated for President, Miss Edna Peterson for Vice-President, and Mr. John Koestner for Secretary, all of whom were duly elected.

Mr. Cooper identified the Sea Squirts shown at the September meeting by Mr. Ellison as *Caesira arenata* Stimpson.

Mr. Carlton Beil reported a Yellow-bellied Sapsucker on the trees about the Museum. This bird is rather rare on the Island.

Then followed the pictures and lecture by Mr. Howard H. Cleaves on "Cruising Audubon's Labrador." Mr. Cleaves told of his three months' cruise on a Canadian Government boat, during which time he visited the northern shore of the St. Lawrence from Mingan east to the Straits of Belle Isle. This is much the same territory as visited by James J. Audubon.

The meeting of November 25, 1939, was held in the Public Museum.

The unanimous opinion of those present was to oppose in every way "indiscriminate hunting on Staten Island."

Mr. George B. Wilmott exhibited an eel-like Salamander, *Amphiuma tridactylum*, about three feet long which he had acquired in Louisiana. He also showed a Spotted salamander, *Amblystoma maculatum*, from the Catskill Mountains, and another from Bloomington, Indiana, pointing out the differences in spots between the eastern and western forms.

Mr. Wm. T. Davis mentioned the capture of a Mantis Shrimp, *Squilla empusa*, by Mr. L. A. Ellison, on the screen of the intake at the Livingston power plant. It had been supposed that water of the Kill Van Kull was too impure to permit the occurrence of a

Squilla, which is rare even in the purer waters of the south shore of the Island.

The Bitter-nut Hickory (*Hicoria minima*) standing in the hollow opposite the Perine House, 1476 Richmond Road, is still producing fruit, and a number of the nuts, leaves, and buds were shown. Attention was called to the very thin shells of the nuts, which are illustrated in Hough's "Handbook of the Trees of the Northern States and Canada," together with many other trees made from photographs taken on Staten Island by Mr. Hough in 1892. (See *Pro. Nat. Sci. Assn. of S. I.*, Oct. 15, 1892, and February 18, 1893, as well as the preface to the *Handbook*.)

Mr. Davis stated that Cicadas had been remarkably scarce on the Island during the past summer. In 1938 they were very abundant, 40 dead *Tibicen chloromera* and four dead *Tibicen lyricen* having been found under the trees or taken from Cicada killers in the small area about his home at 146 Stuyvesant Place, where also 99 pupae skins were discovered on the trees and bushes. This year but one Cicada was heard, and only 11 pupae skins could be located in the same area. Owing to the abundance of Cicadas in 1938 the colonies of Cicada killers (*Sphecius speciosus*) at Amber Street, near Oakwood, and the one at Andrews Avenue, near the Richmond Road, prospered exceedingly, with the result that there were a great many *Sphecius* this year at the localities mentioned. Much time was spent watching the two colonies. Activities were commenced about the first of July and were over by about the middle of September. It is doubtful if enough Cicadas were secured to continue the prosperity of the colonies of Cicada Killers in 1940.

Part 2 of: "The Birds of the Belgian Congo," by Dr. James P. Chapin, president of the Institute, was shown. It was published in October by the American Museum of Natural History, and contains 632 pages, 21 plates, three of which are colored, as well as 38 text figures.

Three specimens of the Cave Cricket, *Tachycines asynamorus* Adelung, usually known as *Diestrammena marmorata* Haan, were shown. The insects were observed in considerable numbers in Mr. W. J. Twyford's florist establishment on Post Avenue, West New Brighton, Staten Island. It is a species of eastern Asia, and has not been reported from New York state, though at times it has occurred plentifully in green-houses, cellars, etc., in several of the

New England and Western States, and has also been found in New Jersey. The Cave Crickets were collected by Mr. Robert C. Meyer, Jr., who arrived later in the evening, and promised to keep the colony under observation, and collect a few more specimens.

The meeting of December 23, 1939, was held in the Public Museum.

Roswell S. Coles announced that he and John Koestner had seen Borough President Palma about hunting on the Island and that a committee on conservation of wild life had been appointed as part of the new Richmond Borough Planning Commission. Miss Katharine S. Seaman was elected representative of the Nature Club on the committee.

Dr. James P. Chapin told of his visit to Nevada during which he trapped a small species of Pocket-rat, which he styled one of the most beautiful of North American rats. He showed a study skin and accompanying skull, prepared for the American Museum of Natural History.

Mr. Carlton Beil stated that an Indian Banner stone presented to the Institute in 1932 by Mr. Percy Sperr had been on exhibition for some time. Recently a visitor from the Bronx, Mr. Theodore Kazimiroff, noticed that fragments of a Banner stone found by him, by Mr. John Johnson and Mr. Howard Smolleck in a field near Tottenville, all fitted together. The more recent fragments were found in August, 1939.*

Mr. Howard H. Cleaves stated that the usual Staten Island Christmas Bird Census had been made. Nine observers were in the field and that 47 species had been seen. The report will appear in *Bird Lore's* "Fortieth Christmas Bird Census."

Miss Bessie Blauvelt exhibited a "fairyland plant" made by pouring salt over coal and adding ammonia and coloring matter. Crystals of salt form as the ammonia evaporates.

Mr. Wm. T. Davis showed a Dandelion flower, one of five that he had observed growing on the filled-in land at Tompkinsville on December 18, 1939. On that date, according to the weather station at Wagner College, the temperature reached 52 degrees.

On November 26, 1939, Mr. Joseph F. Burke observed a very large grasshopper, *Schistocerca americana*, on the side of a building

* Mr. Kazimiroff contributed a note on this Banner Stone to the February, 1940, Museum Bulletin.

about two feet above the ground, on Schuyler Street, near Richmond Terrace, St. George, Staten Island. On November 27 the insect was found mashed on the sidewalk close to where it had been seen on the 26th. In the *List of the Insects of New York* it is stated that our largest grasshopper is not known to breed on the Island, and that all of the individuals recorded are supposed to be adventive from the south. It is occasionally found in May but more often in September and later.

Mr. Davis also showed a Christmas card received from Dr. Charles W. Goodwin of New Dorp, Staten Island. For group position, Audubon's plate 205, of three Virginia Rails, had been followed by the unknown artist, but instead of Virginia Rails a King Rail from plate 203 and two Clapper Rails from plate 204 had been combined in the picture.

Mr. I. C. G. Cooper gave a brief resume of the history of Mistletoe as a Christmas decoration in England, and of the considerable number of species growing in different parts of the world. Mr. Davis recalled that a number of years ago he, with Dr. N. L. Britton and a visiting botanist, spent sometime in trying to find mistletoe growing in one of the hollows between Fort Wadsworth and the present Grasmere. In the *Bulletin*, Torrey Botanical Club, July, 1884, p. 76, Dr. Britton records: "In 1879, while preparing the Flora of Richmond Co., N. Y., with Mr. Arthur Hollick, we were credibly informed that, only a few years before, the mistletoe was growing on sour gums near Clifton, and a note was made to that effect; since then I have been shown a locality in that neighborhood by Mr. R. S. Newbury, of New York, where he had seen the plant in former years. The *Nyssa* was there—several very old decaying trees—but no *Phoradendron*."

This being the December meeting the custom of many years was followed and the "Uncle Toby Books" were shown, also a number of letters illustrated by him. Mr. Callisen is no longer able to prepare an illustrated book for our December meeting, but his efforts of by-gone years are much appreciated and always attract attention.

The meeting of January 27, 1940, was held in the Public Museum.

A resolution was passed favoring the passage of the Bormann bill to prohibit hunting on the Island.

Mr. Carlton Bell stated that all of the water cress had been cleaned out of the springs in the Bird Sanctuary at New Springville, probably by black ducks. Mrs. Stryker also reported on the considerable number of black ducks seen.

Mr. I. C. G. Cooper exhibited a mounted frond of a Shield Fern, which was quite green when collected on December 15. The recent cold weather, has, however, wilted all of the fronds on the plant.

Mr. Wm. T. Davis showed two charts, one from the *New York Herald Tribune* of January 7, 1940, giving the mean temperatures by decades for more than a century, showing that since 1830 the trend of temperature has been on the whole upward. The other chart from the *New York Sun*, January 9, 1940, showed the mean winter temperatures for the past sixty-eight years since 1871-72. "The coldest winter was that of 1917-1918, with a mean temperature of 25.4 and the warmest that of 1880-1890—the year after the great blizzard—with an average of 40.7. There were twenty-nine winters below normal, thirty-five above normal and four normal. Normal is 32 degrees above zero, the freezing temperature."

In our Proceedings there are several references to the early blossoming of plants on the Island in 1800, and in the Proceedings of October, 1918, there is an account of "The Cold Winter of 1917-18 and Its Effect upon Vegetation on Staten Island, N. Y." "Exceptional Weather Records" are also given in "Staten Island and Its People," pp. 63-70, and again in volume 5, pp. 9-11.

Mr. Wm. T. Davis showed the large hen's egg 6½ inches in circumference which was exhibited at the meeting of the Nature Club, November 25th, 1939. The egg was presented to the Institute by Mr. Anthony De Cress, 221 Sharrot road, Charleston, Staten Island. In the *Advancer* for January 23, 1940, there is a picture of a large egg also six and a half inches in circumference laid by a Plymouth Rock hen held for its photograph by Mrs. William Huston of 75 Kreischer street, Charleston.

Mr. Davis also showed his collection of 30 hen's eggs of odd shapes and colors, most of them from Staten Island. One small egg, one and three quarters of an inch in length, is shaped like a squash, that is with one end drawn out and curved. Another has an oblong pattern on one side of 14 short depressions. The most interestingly colored egg, is one of normal size, having a narrow light band around the middle, with each end, or portion beyond the

band, of a different shade of brown, one considerably darker than the other.

In the *American Inventor* for March 15, 1903, there is an illustrated article on: "Some Biological Studies in Hen's Eggs," by Clement L. Webster, of interest in this connection.

The meeting of February 24, 1940, was held in the Public Museum.

Mr. Charles W. Leng showed a newspaper clipping illustrating the early evening position in February of the planets Mercury, Venus, Mars and Jupiter. He also exhibited the recently issued "Inventory of County and Borough Records," in which the work of the Institute and of the Staten Island Historical Society is mentioned. He made reference to the Woodland Trail to be established in the Clove Lakes Park, and to the monument to the late Dr. N. L. Britton in Porto Rico. The article by Mr. Ned J. Burns, formerly of the Staten Island Museum, on "The History of Dioramas," in *Museum News*, was shown.

Mrs. Harold Twiss told of the wild life that had come to her feeding station during the cold season, and stated that robins had been there all winter. Also Cedar Waxwings and a Red-breasted Nuthatch were present.

Mr. Carlton Bell showed a flash-light picture of a Skunk taken last summer on a farm in the Catskill Mountains. The animal was feeding at a garbage heap near a boarding house and was photographed without difficulty.

Miss Bessie Blazvelt showed some Staten Island clay from Kreischerville, which had been found excellent for modeling.

Mr. Wm. T. Davis showed a female spider, *Argiope aurantia*, and a Cicada, *Tibicen tuncularis*, found dead in the spider's web at Lakeville, Conn. August 23, 1936, by Mr. A. T. Gaul, of the Brooklyn Entomological Society. He called attention to the record in the *Proceedings of the Staten Island Institute of Arts and Sciences*, Vol. 4, p. 118, October 23, 1926, meeting of the Nature Club, when two female *Argiope aurantia* spiders were exhibited, each of which had captured a Cicada (*Tibicen chlorameris*) in her web. These spiders and their prey were collected August 30, 1926, near New Dorp, Staten Island, having been first observed by Dr. Wm. H. Wiegmann. One of the cicadas was dead when found, but the

other caught by the wings on one side only, was unable to free itself, though it struggled violently.

The following letter from Mr. Roy Latham, dated Orient, Long Island, January 30, 1940, was read by Mr. Davis. "During 1939 I collected about 3,000 insects and among them were a good many new to my Long Island list. I took my first specimen of the big poplar borer, *Saperda calcarata*. This species is evidently rare on Long Island or I would have seen it before. I also got another specimen of *Leptotrachelus dorsalis*. I took my first record on the window of my home during the great hurricane of September, 1938. This one I observed walking on my table near a light in the evening. I added two new fishes to my Long Island list this past year; Flat Needle fish, *Ablennes hians* and the Pilot-fish, *Naucrates ductor*. Some of the rarer species of fishes appeared more often than usual this past season, as the Harvest-fish, Cutlass-fish, Thread-fin and some of the Jack-fishes. I found an Angler fish (*Lophius*) dead on the beach this winter with a male White-winged Scoter in its stomach. The duck was perfectly fresh. There is room enough in the stomach of a full-grown adult of this fish to hold three such ducks.

"Among the most interesting bird records for this section last year are: Clapper Rails nesting at two stations; breeding of Carolina Wrens, which are again increasing in the eastern end of the Island. It is the first time they have been here in any numbers since the complete kill off in the cold winter of 1917-18. Now we have the coldest winter, perhaps, since that time, but one wren is still calling from our woods most every day. We had the first nesting record of the Louisiana Water Thrush that I have known out here. Also the largest flock of Egrets I have recorded, 28 of them in one flock on August 28. Early in July I saw the Louisiana Heron, Black, and Yellow-crowned Night Herons, the Great Blue and the Green Heron all on the same day. It is the first and probably will be the last time I will ever see five species of herons on Long Island in a day. I have seen four at other times, but to get the fifth is another story.

"In August I was out at Montauk to see the colony of the rare orchid *Habenaria cristata*. There are several thousand plants in the colony, but I think they are unknown to most visiting botanists on Long Island. I have located two smaller colonies farther west, but believe there are no others reported from Long Island.

"After the easterly storm in August, I found washed up on the ocean beach at Napeague, ten specimens of the southern jelly fish, the Portuguese man-of-war.

"The big Rhino beetle (*Xyloryctes*) was in flight last fall from October 7th to 10th, each evening just at dusk. Many males and females were flying over my lawn. They usually fly here in July and August."

The meeting of March 23rd, 1940, was held in the Public Museum.

The visiting members of the Newark Museum Nature Club were welcomed by the President.

Mr. Howard H. Cleaves gave an account of his motor tour of over 10,000 miles, starting from his home at Pleasant Plains, December 30, and returning to the Island March 6. His first motion pictures were taken in Wyoming on the highway where he found a number of horned larks on the open road. At Lake Chelan, Washington, he was able to film views of mule-tailed deer; two stops were made in California to photograph wild life, and he also stopped at Boulder Dam. In Louisiana thousands of blue geese were wintering, and some photographs were taken. In the same State he found that some of the racoons had learned to flatten themselves in the terrain when there were no trees to climb out of danger. At Wakulla, Florida, interesting photographs were taken of a limpkin. This is now becoming an uncommon bird in Florida.

Mr. W. Lynn McCracken told of his recent efforts to preserve the natural beauty of our Island.

Mr. Wm. T. Davis referred to his brief report at the February meeting of hearing, at 146 Stuyvesant Place, radio announcements emanating from a small closet containing a tea kettle shoved against a gas pipe leading to a small stove. Though indistinct, the words could sometimes be distinguished. The kettle was moved slightly and the delicate adjustment spoiled. He read the following from the November, 1938, number of the *Readers Digest*, p. 35, recording similar experiences: "The programs of radio station WOR are broadcast from two 385-foot towers in East Rahway, N. J., and the home life of people within a half mile radius has pronounced peculiarity. When they turn their radios off, the WOR program comes in through the plumbing, steam pipes or kitchen stoves. The tech-

nical explanation is that any oxidized or rusty metal surface 'rectifies' the powerful electro-magnetic waves, turning them into sound waves."

Mr. Davis showed a number of Cicadas collected in Maine and recently received from Dr. A. E. Brower. They represented the species *Tibicen canicularis*, *Okanagana rimosa* and *Okanagana canadensis*. As *Tibicen lyricen* has been found in New Hampshire near the Maine boundary, it likely also occurs in that State, making four species native to Maine. New York State has ten species of Cicadas, seven of which occur on our Island. At one time when we had groves of native pines, *Tibicen canicularis* was to be found here. The last heard was singing its distinctive song in a pine tree in the Moravian Cemetery, September 18, 1917. The Seventeen-Year Cicada is to appear on Long Island in June of this year, and may be observed north of Wyandanch in the Half Way Hollow Hills, and elsewhere along the north shore and in the central parts of the Island. A box of specimens collected in the Half Way Hollow Hills in 1923 was shown.

Mr. Robert C. Meyer, Jr., spoke on Staten Island grasses, of which there have been about 90 species recorded, and showed a number of well mounted herbarium specimens. Our tallest grass is *Phragmites phragmites*, which is sometimes fifteen feet in height. It has spread considerably on the Island during the last fifty years. Mr. Meyer is to give some distribution data for various species at a future meeting.

The meeting of April 27, 1940, was held in the Public Museum.

Mr. Chas. W. Leng reported that the Blood Root plants in his garden had done well for a number of years, and that they were now in blossom.

Mr. Wm. T. Davis stated that he had seen a Cabbage-butterfly on Stuyvesant Place on the warm Sunday, April 7. This now common and injurious species, introduced from Europe, reached Quebec about 1860, and is one of the first butterflies to emerge in the spring from the chrysalis stage. Being less hardy than the Morning-cloak butterfly, the specimen seen probably died during the record cold and snow of April 12-14, 1940. This cold snap blighted the Colts-foot plants so that the flowers, which first appeared in early April this year, failed to produce seed. April 13, with a temperature of

24.8 degrees, and April 14, with a temperature of 28 degrees, were the coldest of record for those dates.

A letter from Mr. Roy Latham, dated Orient, Long Island, March 7, 1940, records: "Spring is slow in coming this year. We have over one foot of frost in the ground and a great deal of mud during the warmer part of the day. No green is showing in the lawns. The first three red-wing black-birds appeared on the 5th, which is five days later than the 25 year average in Orient. During the sleet storm a Razor-billed Auk was seen standing on the Sound beach in Orient, and I have seen one Dovekie and one Murre here since my last letter. All three of these species are rare near Orient, and I do not see all of them every winter, and some winters not any of them."

Mr. Carleton Beil described a trip to Chelsea he had made in the morning with a group of children in search of Indian implements. Among the things found were four hammer stones, a broken arrow point, and a box turtle. The turtle was torpid when found, and showed the marks of mice teeth on the rim of the shell. The turtle probably had not burrowed deep enough to escape the rodents during the winter. Mr. Beil remarked on the many excavations he had observed in the sand made by students of Indian life.

Mrs. K. O. Nesslinger told of the habit of three tame mice owned by her daughter of climbing up the window curtains in the evening, and that on one occasion an owl had tried to get at them through the window.

Mr. W. Lynn McCracken said he was trying to obtain the use of a drafting table in the Borough Hall so that maps needed by the Staten Island Brookside and Fenways Committee may be traced.

Mr. I. C. G. Cooper mentioned the Yellow Adder's-tongue growing in his garden and now in blossom, and the great number of Bonaparte's gulls that often follow the ferry boats at this season.

Moving picture films recently purchased by the Institute, illustrating the lives of the mosquito and the honey-bee, were shown.

The meeting of Friday, May 24, 1940, was held in the Public Museum.

A letter was received from the Newark Museum Nature Club inviting the Staten Island Nature Club to a field meeting to be held at Pompton Lake, New Jersey, June 16, 1940. The President

stated that he would reply to the letter, and thought that some of our members could attend.

Mr. Wm. T. Davis showed a piece of wood 16 inches in length and quite thickly covered with barnacles. It was washed ashore on Oakwood beach in 1936, and has been kept as a specimen in the attic of the Museum, where lately a house mouse appeared. Not finding much to eat in the attic, the mouse gnawed a number of the barnacles, and ate the interior dry parts. About a year ago our female red-squirrel died from an excessive growth of un-worn teeth, but the barnacle-eating mouse will suffer no such fate.

On May 6, 1940, the beach at Oakwood was visited by the Bird Club, and a number of interesting objects found. Miss Miriam Strauss discovered a dead Mud Lobster, *Uprogebia affinis* Say, which probably came from the near-by clay, exposed at low-water. In such places its burrows are to be found. The Edible Periwinkle (*Littorina littoria*), first reached our Island in its southern migration about 1888, and a single shell was recorded in our *Proceedings* for January 14, 1888. In 1893 the first living examples were found on the rocks at the Narrows and at Princes Bay, as recorded in the *Proceedings*, September 9, 1893. This mollusk is now quite common on the mud and peat banks at Oakwood, exposed at low water.

A number of Seventeen-Year Cicada pupæ found in early May about tree roots by Mr. K. O. Nesslinger in his garden, 960 Fingerboard Road, were shown (See *Museum Bulletin*, June, 1940).

In his letter of May 6, 1940, Mr. Roy Latham of Orient, Long Island, wrote as follows: "We have an Otter in Shelter Island. There is still a large tract of wild, unbroken country on that island where there are many deer and birds and no shooting allowed, so the otter may hang on there for some time to come. There are many trees down in the big woods which have never been cleared up since they went down in the hurricane of 1938. It makes good protection for the wild life and nearly impossible to walk through in places."

Mr. Latham also sent a recently published pamphlet on the: "Distribution of Wild Orchids on Long Island," wherein he records 30 species. About 20 species of Orchids have been recorded from Staten Island, most of which have been exterminated by forest fires, and changing conditions.

A letter from Mr. Oscar Fulda calling attention to the recent

work of tree-butchers in the woods near Richmond, was read and commented upon.

Mr. Austin H. Clark in his article on "Butterfly Explorers," *Country Gentleman*, June, 1940, definitely states regarding the Milkweed or Monarch Butterfly, that: "In early spring those that have survived the winter return northward, but these northward flights, composed of much fewer individuals, are by no means so conspicuous as the southward flights and have not often been reported. A curious fact is that in the southward flight in autumn both sexes are in equal numbers, but only females have been reported flying northward in the spring." Mr. Davis has a male *plexippus* in his collection taken on Staten Island, May 17, 1908, and in the: "Butterflies of New Jersey," *Journal*, N. Y. Entomological Society, March, 1940, William P. Comstock states that there are: "Records of males returning in spring also."

Mr. Carlton Beil stated that a small but attractive woodland area, abounding in flowers, existed between Oakland Ave. and Guyon Ave., Oakwood. Some of the members of the Bird Club on their way from the beach on May 6, had gone to the place to see the spring flowers, and had incidentally found an unbroken robin's egg lying on the ground.

Mr. Howard H. Cleaves stated that he had again seen the Cooper's Hawks near Sandy Brook, Pleasant Plains. A pair of these birds was first reported nesting on the Island in April, 1933, as recorded at the June, 1933, meeting of the Nature Club. Apparently Cooper's Hawks have bred in the same locality each succeeding year. This species is an addition to the list of hawks known to breed on the Island given in *Staten Island and Its People*, to which should also be added the Red-tailed Hawk from a record of 1874, and the Broad-winged Hawk from a record of 1880 (See meeting of the Nature Club, October, 1933).

Mr. Cleaves said that the Prairie Horned Lark has been recently recorded as breeding in the vicinity of New York City, and that Mr. and Mrs. Carol Stryker recently saw in Clove Lakes Park near Slosson Avenue, a young bird of this species being fed by its parents.

Mr. K. O. Nesslinger talked on his far eastern travels of some years past in China, Japan and the Philippine Islands, showing many photographs of the places visited. He also showed a number of artistic and beautifully carved oriental objects from his collection.

Annual Reports

ANNUAL REPORTS—BOARD OF TRUSTEES

(Condensed)

MAY 1939 AND MAY 1940

Since the annual report of 1938 there have been four changes in the Board of Trustees. The vacancies caused by the deaths of Judge Thomas C. Brown and Mr. George W. Allison were filled by the appointment of Mr. I. C. G. Cooper and Mr. Cornelius A. Hall, while that caused by the death of Mr. John Rader as yet has not been filled. Mr. A. M. Anderson, Borough Park Director, has taken the place of Mr. James J. Mallen who has been transferred to Queens.

Two changes have occurred in the staff. Miss Agnes Pollard resigned June 30, 1939 because of ill health and the position of curator was filled by Mr. Roswell S. Coles. The continued absence in Europe of Mr. Hans Stecher made necessary another change, his position as museum guard being filled by Mr. John Koestner on January 2, 1940.

Museum attendance, excluding attendance at functions held outside the museum building, was 42,177 for the year ending May 1939 and 42,650 for that ending May 1940. The steady increase in the use of museum facilities has made the enlargement of the building necessary. Two wings have been planned and drawings made by Mr. Carl F. Grieshaber. The City Planning Commission has approved \$50,000 for one of these wings to be erected in 1943.

The Institute has held eight meetings each year. One meeting each year was conducted by the Microscopical Society. The Art Committee has held monthly shows including annual exhibitions by the Camera Club, the Art Association and Staten Island artists, while those of textiles and of arts and crafts were prominent. There was a one-man show of the works of Mr. William Day Streeter and the recent exhibition of old Staten Island buildings caused much favorable comment.

On the main floor there have been several special exhibitions. In 1939 there were four—radioactive minerals, lustre ware, Chinese culture and African culture. In 1940 a loan of Staten Island Indian implements by Mr. Elliott Burgher and of Hopi Katchinas by Mr. Fred Dockstader with backgrounds painted by Mr. Gilmer Petroff added to our Indian material, while a display of hydrocarbons given by Mr. George Ashby supplemented our mineral collection. Under the care of Mr. Koestner the marine and seashore displays have been revised and a special exhibit of mycetozoa arranged. In the auditorium there have been, in addition to the Microscopical shows, flower shows of the Horticultural Society and a special display by the Philatelic Society commemorating the centennial of the use of the postage stamp.

In connection with the World's Fair, as a department of the City of New York, we have prepared, under the direction of Mr. Beil, an exhibit illustrating a feeding station for winter birds. This may be seen in the City's building.

We are indebted to Mrs. Cleaves for painting the background, which has excited much admiration, and also to Mr. Fred Decker. In this connection also, statements have been written for the publications issued by the Mayor, the Art Commission and the Board of Education.

Under the direction of Mr. Loring McMillen, the Britton Cottage has been carefully restored, a picket fence added and the entire building cleaned. A new caretaker, Mrs. John G. Wilson, has been appointed. Contributions of money and objects for the Britton Cottage have been received from the Women's Auxiliary, Mr. W. R. Britton and Miss H. L. Britton.

There have been 3,444 items accessioned during the past two years. Important additions to our collections have been made by Messrs. George Ashby, Peter Crowe, James Frampton, Robert O'Connor, Wm. T. Davis, Morris Lunn, John Koestner, Daniel L. Bridgman and the estates of E. B. Southwick and Edward C. Delavan, Jr. Money gifts have been received from Mr. Wm. T. Davis, Mr. J. H. Crittenden, the estate of John Rader, Women's Auxiliary, Junior Red Cross, Professional Engineers, Aeolian Singers, and the Federation of Mother's Clubs. Mrs. Louis A. Dreyfus has also contributed to the Bird Club.

During this period the WPA projects have been closed, but additional help has been received from several young people from the National Youth Administration.

In 1940 the museum made its initial radio appearance in a program sponsored by the Chamber of Commerce on station WNYC and one other program has been broadcast. The museum has been instrumental also in providing material for other broadcasts about Staten Island.

Our scientific library, by the devotion of Mr. Joseph F. Burke to its development, in obtaining by gifts and exchanges, and in directing for more than four years a staff of WPA employees, has become one of the important possessions of the Institute and an asset to the cultural life of Staten Island.

Finally, mention must be made of the many volunteer workers who have helped in all phases of museum activity, especially Miss Sally Hurlbut, Mrs. Roland Knobel, Miss Luna E. Bigelow, Miss Bessie Blauvelt and Mrs. Robert Hallowell. To the Hospitality Committee, Mrs. H. A. Witte, Mrs. Chas. W. Leng, Mrs. Frank A. Strauss and Mrs. A. W. Hoffmeyer, assisted by Miss Blauvelt, we owe a debt of gratitude for making our meetings so pleasant. The continued daily presence of Mr. Burke and Mr. Davis has added tremendously in making the past years so successful.

CHILDREN'S ACTIVITIES

Each afternoon, Monday through Friday, the regular Museum Nature Clubs have met under the direction of Mrs. P. A. Bonney and Mr. Beil. On Saturday mornings the Stamp Club, directed by Mrs. Bonney, and the Art Class, directed by Miss Agnes C. Nash, assisted by Miss Bessie Blauvelt, have met. Once each month the Nature Club hike was held. Each summer the work of the art class has been shown in the art gallery.

In 1940 several new features were added. A Mother's Club Hike was organized for younger children accompanied by parents. The "Museum Guides,"

an honor roll organization of older Nature Club members, was started. A lending library was built up by the members of the Nature Clubs and a special page in the Museum Bulletin has been devoted to children's activities.

In each of the two years approximately 10,000 school children from all five boroughs have visited the museum for lectures or demonstrations. In addition to these groups Mr. Beil has lectured on a variety of nature topics to another 5,000 students in Island schools. Girl and Boy Scouts and children from Mt. Loretto also received instruction.

INSTITUTE MEETINGS

October 15, 1938.—Mr. Frederic Newton Adams spoke on "Color Photography," with illustrations of recent results.

November 19, 1938.—Captain Bob Bartlett, under the auspices of the Women's Auxiliary, gave his lecture, "North with Bob Bartlett," illustrated by motion pictures in color.

December 17, 1938.—Dr. Ralph W. Nauss spoke under the title "Scanning Venezuela by Sea, Land and Air," of observations made during a recent visit to the oil fields.

January 21, 1939.—Dr. James P. Chapin described "Some Islands of the Pacific Ocean," with illustrations by lantern slides, especially in relation to the influence of the Humboldt Current on their bird life. Mr. Hans L. Stecher exhibited the lantern slides he used in lectures to children on snakes. Mr. Davis described his experience in 1917 of being bitten by a small rattle snake.

February 18, 1939.—Mr. Howard H. Cleaves gave his lecture on "Night Movies in the Wild," illustrated by his own motion pictures, made in part on Staten Island.

March 18, 1939.—The Ninth Annual Exhibition of Microscopic Objects, under the auspices of the Staten Island Microscopical Society, was held.

April 15, 1939.—Dr. B. M. Heald spoke on "African Jungle Life," with illustration by his own motion pictures and numerous examples of negro handicraft.

May 20, 1939.—Mr. Chris. E. Olsen spoke on "Undersea Exploits," describing the obtaining of corals at Bahama and elsewhere, and illustrated by lantern slides and undersea paintings.

October 21, 1939.—Mr. Ned J. Burns discussed a recent inspection trip taken by him in his capacity as chief of the museum division of the National Park Service, illustrated by Kodachrome slides.

November 18, 1939.—Mr. H. W. Zieler showed the color photography of Anton F. Baumann under the title of "On Tour with Color Camera."

December 16, 1939.—Dr. Carl De Wendler gave an illustrated account of the results of his twenty-five years of study of the folklore, language and customs of the Gypsies, called "O'er Many Lands with Pharaoh's Children."

January 20, 1940.—Dr. Otto Harris discussed "The Geographic Factors in the Present Wars," using a series of large wall maps for illustrations.

February 17, 1940.—Mr. Beil and Mr. Coles demonstrated, with objects, lantern slides and motion pictures, the philosophy and practice of the museum educational program.

March 16, 1940.—The Tenth Annual Exhibition of Microscopic Objects, under the auspices of the Staten Island Microscopical Society, was held.

April 20, 1940.—Mr. Harry C. Raven gave an illustrated account of his visit to Australia in 1939, as a member of the Michael Lerner New Zealand-Australia Expedition of the American Museum of Natural History, choosing as his topic "Animals of Australia."

May 18, 1940.—Mr. Junius Bird told of his excavations of the ruins in Northeast Greenland left by an extinct Eskimo group, "The Lost Eskimos of Northeast Greenland."

SECTION OF ART

The Art Committee, Miss Carolyn C. Mase, chairman, has arranged the following exhibitions from May, 1938, to May, 1940:

Etchings and Aquatints, by Philip Keppel, opening May 4, 1938.

Memorial Exhibition of Work by William Hurd Lawrence, June, 1938.

Work of Museum Drawing Class, through July and August, 1938.

European Textiles and Costume Figures, loaned by the Metropolitan Museum of Art, from September 8 through November 6, 1938.

Work of David Varon, opening December 15, 1938.

An Exhibit of Lustre Ware, loaned by Mrs. Elizabeth Burgher, and one of Chinese Culture, loaned by the American Museum of Natural History, through the Rev. Howard Brooks, were also shown on the main floor, beginning in December, 1938.

Exhibition of Staten Island Architects, opening January 5, 1939.

Exhibition by Professional Artists, opening February 5, 1939.

Exhibition of works of Staten Island Artists during March, 1939.

Sketches and Water Colors by Edna Lawrence during a vagabond journey to foreign ports, opening April 4, 1939.

During April an exhibit of African Art and Culture, loaned by Rev. B. M. Heald, was opened on the main floor.

Work of William Day Streetor, opening May 4, 1939.

Retrospective exhibition by members of the Art Committee, through July 15, 1939.

Work of Museum Art Class and Soap Sculpture, July 15 to August 30, 1939.

Water Colors by Z. Vanessa Helder, of Seattle, Washington, to October 4, 1939.

Annual Exhibition of the Staten Island Art Association to November 9, 1939.

Staten Island Arts and Crafts, November and December, 1939.

Exhibition of prints by the Staten Island Camera Club, January 2 to 15, 1940.

Exhibition by Staten Island Architects, January 15 to February 17, 1940.

Loan exhibition from Studio Guild, to March 20, 1940.

Exhibition by Staten Island Artists, March 25 to April 30, 1940.

Paintings of "Historic Buildings and Old Homes of Staten Island," during May and June, 1940.

The Museum Art Class continued to hold weekly meetings under the direc-

tion of Miss Agnes C. Nash, assisted by Miss Bessie Blauvelt. The work of this children's group, consisting of drawing, soap sculpture and modelling, was shown each summer in the gallery.

Important additions to the Museum's permanent collections were made by Mr. Daniel Low Bridgman. These are: a marble bust of Daniel Low by Hiram Powers, a marble statue of a dancer by an unknown sculptor, and an oil painting by Carl Mildner, 1862. The Belles Lettres Society has contributed a pastel portrait of Mr. A. W. Callisen executed by Miss Constance Wingert and the Staten Island Art Association has given a water color by Julius Delbos, done during a lecture-demonstration in the gallery.

During April Mrs. Henrietta Beaumont was elected chairman of the Art Committee to succeed Miss Mase, and Mr. Richard Kroth and Mr. Gilmer Petroff were added to the Committee.

WOMEN'S AUXILIARY

BY MRS. CARLA H. NESSLINGER

The Auxiliary has held regular meetings on the last Wednesday of each month from October to May, inclusive. The annual luncheons were held in April. Twenty new members were added during the 1939-1940 season and there are now 180 members of our Auxiliary. During the past two years we have contributed \$217.00 to the Institute for museum use and \$125.00 for repairs to the Britton Cottage.

The program for 1938-1939 was:

October 26, 1938.—Evening reception and tea. Martens Mandolin orchestra entertained.

November 19, 1938.—Lecture.—Sponsored joint evening meeting with Institute. Captain Bob Bartlett lectured on his experiences on his annual trips north.

December 21, 1938.—Christmas program.—Mr. Thomas Dobson, Christmas readings, Mrs. Wm. Gerke, songs.

January 20, 1939.—Lecture.—Mr. Loring McMillen. "Old Houses on Staten Island."

February 15, 1939.—Musical program. Mr. Wm. Sunderman, Miss Marjorie Sunderman, Group of American Songs.

March 29, 1939.—Lecture.—Mrs. Robert M. Moller. "Early American Glass."

April 17, 1939.—Annual luncheon.—Meurot Club. Mrs. Hoffmeyer, chairman.

May 31, 1939.—Annual meeting and lecture. Mrs. Edwin D. Ford, "Life in Chile and the Argentine."

The officers for this period were: Mrs. Robert E. Carew, president; Mrs. Harry F. Towle, 1st vice-president; Mrs. Anton W. Hoffmeyer, 2nd vice-president; Mrs. Wm. P. McGovern, 3rd vice-president; Mrs. George W. Batz, treasurer; Mrs. James A. Holden, recording secretary and Mrs. James Bernard, corresponding secretary.

The program for 1939 was :

October 25, 1939.—Annual reception and tea.

November 29, 1939.—Lecture.—Dr. A. H. Thomasson, "Wonderful America."

December 27, 1939.—Christmas readings, Mrs. John Forster. Dances, Edith Jones Studio.

January 31, 1940.—Lecture on paintings in Frick Gallery, Miss Agnes C. Nash.

February 28, 1940.—Musical program. Mrs. Ralph R. McKee and soloists, "Music of the 18th Century in America."

March 27, 1940.—Lecture.—Mr. John Koestner. "Digging into the Past."

April 30, 1940.—Annual spring luncheon. Speaker, Dr. Wm. Aughinbaugh, of New York.

May 29, 1940.—Annual meeting. Speaker, Mrs. Wm. H. Pouch, "Australia."

The officers for this period were: Mrs. Robert E. Carew, president; Mrs. James A. Holden, 1st vice-president; Mrs. Anton W. Hoffmeyer, 2nd vice-president; Miss S. Gertrude Clark, 3rd vice-president; Mrs. K. O. Nesslinger, recording secretary; Mrs. Pauline Stillwell, corresponding secretary, and Mrs. John W. Dreyer, treasurer.

STATEN ISLAND ART ASSOCIATION

BY W. IRVING LEWIS

The two years, embraced by this report, saw encouraging progress made by the Art Association. This Society was organized in 1936 by the Art Committee of the Institute and at that time Mr. Otto C. Wigand was elected president, serving until early in 1937, when he was forced to resign because of ill health. From a handful of enthusiasts we now have a total membership of 122.

The first event of note, during the period of this report, was a Memorial Exhibition of the Works of the late William Hurd Lawrence, a recognized artist and a valued member of this Association. The Exhibition opened on the evening of Thursday, June 2nd, 1938, with an appropriate program, and continued during the month of June.

On July 21, 1938, a summer meeting was held at the studio of Mrs. S. L. Heinzmann in Prince Bay. Showers made it inconvenient to work out-of-doors, so that the group worked from a model in the studio.

On September 21st, the date of the terrible hurricane, there was a special membership meeting. Arrangements were made for the October election and Miss Schoenfeld, of the Metropolitan Art Gallery, explained the Exhibition of Women's Fashions displayed in the Art Gallery, a loan exhibit from the Metropolitan Museum of Art.

On October 27th, the Third Annual Meeting of the Association was held in the Art Gallery and the following officers were elected: President—W. Irving Lewis. First Vice-Pres.—Carolyn C. Mase. Second Vice-Pres.—Henrietta Beaumont. Treasurer—Agnes C. Nash. Publicity Director—Prof. David Varon. Directors—Mrs. E. B. Steinmeyer, Richard Kroth, and Fred C. Stahr.

On November 3rd the Board of Directors held a meeting, and from November 10th to December 4th, the Third Annual Exhibition of Paintings and Sculpture was held in the Art Gallery. This opened with a public reception on November 10.

The first event to record for 1939 was an invitation exhibition at the retail paint store of Mr. R. C. Van Name, 41 Richmond Avenue, Port Richmond.

On March 14, 1939, a meeting of the Board of Directors was held, and on April 4th, a general membership meeting was held in connection with the opening of the Edna W. Lawrence Exhibition which continued during the month of April. Miss Lawrence gave a most interesting talk about her pictures and her travels, and a social hour was enjoyed afterwards.

On July 27th our summer outdoor membership meeting was held at the home of Mr. & Mrs. Howard Cleaves of Pleasant Plains. About 40 people were present and all had brought picnic luncheons, but again a heavy downpour of rain interfered with the outdoor work. Therefore, young master Cleaves was posed, and most of those present made sketches indoors.

On September 18th the Board of Directors held a meeting and on October 5th, the Fourth Annual Exhibition was opened in the Art Gallery of the Museum. This Exhibition was exclusively for members, and included forty-six works in several mediums.

On October 25th the Fourth Annual Meeting of the Association was held with sixty people present, and the following officers were elected: President—W. Irving Lewis. First Vice-Pres.—Ellinor B. Steinmeyer. Second Vice-Pres.—Richard Kroth. Treasurer—Agnes C. Nash. Publicity Director—Prof. David Varon. Board—Mrs. Henrietta Beaumont, A. E. Lorenzani, Miss Carolyn M. Mase and Constance Wingert.

At this meeting Madeline S. Bowles gave a talk and demonstration on "Abstract Art." She entertained and instructed the audience with many examples and, at the close of her talk, light refreshments were served.

Two meetings have been held thus far in 1940. The first, a meeting of the Board of Directors on February 13th, and the second the spring membership meeting which was the largest attended meeting we have yet held, there being more than one hundred in the gallery. The principal feature of the evening was a water color demonstration by Mr. Julius Delbos of New York. Much to the delight of all, Mr. Delbos gave the picture to the Association at the close of his work. Later it was appropriately framed, and will constitute the nucleus of a permanent collection.

BELLES LETTRES SOCIETY

BY MRS. PEARL L. COLES

Through the year 1938-1939 the Belles Lettres Society has had an interesting variety of programs. In the field of original fiction by members, there were: a children's story, "Renee's Spinning Wheel," by Mrs. Robert W. Cumberland; "The Haven of Wooden Shoes," by Mr. Cornelius G. Kolff; "The Loaf of Thread," by Mr. Leon E. Daniels, and "Two Sonnets for New Year's Day," by Charles C. Stoddard.

Several papers deserve mention. Mrs. Hartley Smith gave an account of the life of Walt Whitman whom she had met in Camden. Mr. I. Delson contributed "The Romance of Bridges." Other subjects were: "Tall Tales of Ancient Travellers," by Dr. E. C. McCulloch; "An Account of New Year's Customs," by Col. John Earle; "The History of the Harp," by Miss Maud Morgan; "A Trip by Air," by Mr. W. Irving Lewis, and an interesting speculation on the possible influence of the New York City World's Fair upon the field of fiction by Miss Mabel Abbott.

Musical contributions were made by three members, Miss Maud Morgan, harpist; Mrs. Walter Kuhn, and Miss Marjorie Sunderman, pianists. Mr. Sigismund Salacinski, violinist, assisted several times, Miss Hazel Kessler sang, and the Misses Elizabeth and Eleanora Smith played violin and piano duets.

The annual dinner was held at the Walker Park clubhouse in March and had, as its theme, the World's Fair. The joint meeting with the Historical Society was held in the museum in Richmond in April.

Two outside speakers presented programs. Prof. Samuel Allen of Williams College spoke on the novels of Sinclair Lewis and his contributions to the field of American literature. Mrs. Rose Brown, of Cook Book fame, told of her travels in several European countries. Miss Peggy Nelson, of the New York Public Library, also told an appropriate ghost story at the October meeting.

The officers for this year were: Miss Alice Lawrence, president; Dr. E. C. McCulloch, vice-president; Mr. Leon E. Daniels, corresponding secretary; Mr. Robert Cumberland, recording secretary, and Mr. Walter Kuhn, treasurer.

During 1939-1940 the World's Fair offered considerable inspiration for papers by members. Its art, engineering, exhibits, flowers and its humor were discussed by Mr. W. Irving Lewis, Mrs. E. C. McCulloch, Mr. Leon E. Daniels, Col. John Earle, Mr. Willard Grimes and Mr. Joseph W. Latham. Other papers were: "An Inkling of Chaucer," by Mr. Henry B. White, a book review of "In a Word," by Mrs. Henry B. White, and a humorous paper "How to Become a Naturalist," by Mr. Roswell S. Coles. Mrs. Harold Twiss also read excerpts from family letters dating back to colonial times.

In April, 1940, the Society celebrated the birth of Shakespeare with a special program arranged and conducted by Miss Katharine Gray.

As in 1938 two programs were presented by outside speakers. Rev. Howard Brooks spoke on "Sea Chanteys" with vocal illustrations at the January meeting and in May the Rev. Fred Sellers spoke of "Poetry and Religion."

Miss Morgan, Mrs. Kuhn, Miss Sunderman and Mrs. Austin Rogers contributed music during the year. Mr. Salicinski, Mr. Robert Kinsel, the Misses Smith, Miss Betty Templeton and Miss Charlotte Dietz also aided in the programs.

Three unusual features occurred this year. A constitution was drawn up and adopted at a series of special meetings held in the museum. A portrait of "Uncle Toby" Callisen, the founder of the Society, was painted by Miss Constance Wingert and unveiled at the annual dinner. This portrait will hang in the museum. Members of the Society also journeyed to Valley Forge, on February 17, 1940, to hear a talk by Mr. Kolff, who represented Governor Lehman at the annual New York State Day program.

The officers for 1939-1940 were: Dr. E. C. McCulloch, president; Mrs. J. E. Earle, vice-president; Mr. L. E. Daniels, corresponding secretary; Mrs. R. S. Coles, recording secretary, and Mr. W. Irving Lewis, treasurer.

During the two years, the group customarily met at the homes of members. The following members entertained: Miss Maud Morgan, Mrs. Isidore Delson, Mrs. Hartley Smith, Mrs. Joseph Latham, Mrs. Robert W. Cumberland, Mrs. Mark Kerr, Mrs. L. E. Daniels, Mrs. Walter Kuhn and Mrs. G. R. Thompson.

In conclusion, noteworthy additions were made to the list of published works. Mr. Willard Grimes published a book of verses, "Veri-Tasse." The Society published Mr. A. W. Callisen's translation of Schiller's "Song of the Bell" and Mr. Cornelius G. Kolff brought out "Staten Island Fairies." Three poems were read, one commemorating Edwin Markham by Mr. Willard Grimes, "My World's Fair" by Mr. Wm. T. Davis and "A Tribute to Labor" by Mr. Kolff. Mr. Daniels read "A Recepte for Asthma" and Mr. Cumberland gave "The Mullens" and "A Chat with a Caterpillar" which had been published previously.

STATEN ISLAND BIRD CLUB

BY CARLTON BEIL

The Staten Island Bird Club has continued its activities during the past two years along its usual lines. The monthly Bird Walks have been continued and in spite of occasional rainy days no walks were postponed and the record of seventeen years remains unbroken. Mr. Wm. T. Davis's intimate knowledge of the woodlands, ponds and by-paths of Staten Island has added greatly to our enjoyment of these trips. The Bird Club has been entertained in the gardens and homes of Mrs. M. A. Seery, Mr. and Mrs. Karl Nesslinger, Miss Katherine Seaman and Mrs. Henry M. Trench, Mr. and Mrs. Howard H. Cleaves and Mrs. Dagmar Johnson, to whom we express our appreciation.

At the Annual Meeting on May 17, 1939, Mr. Frank Gehr, of Yonkers, gave a lecture, illustrated with lantern slides, entitled "Nature's Paradise" which was followed by the audience with interest and enjoyment for over an hour. The program for the Annual Meeting of May 15, 1940, was a talk, "Nature Adventures Near Home," by Mr. Carlton Beil, field secretary. He illustrated by means of lantern slides his experiences with birds, frogs, snakes and other wild things during many years of hiking and nature work on Staten Island.

The Bird Sanctuary at New Springville has been featured as the exhibit of the Institute at the World's Fair for the past two years. A further account of this exhibit may be found in the Annual Report of the Board of Trustees. The Club has provided about eight hundred pounds of grain and a quantity of peanuts, coconuts and suet for winter feeding at the Sanctuary and feeding station in the Moravian Cemetery. During the winter months these supplies have been distributed regularly with the help of the members of the Junior Nature Club.

The Chirstmas Bird Census was taken in cooperation with the Audubon Society on December 23, 1939, by Messrs. Carlton Beil, Joseph Cadbury, Howard Cleaves, George Hallett, Jr., Harry C. Hasbrouck, Charles Pearson,

Jr., Carol Stryker, Dr. William H. Wiegmann and Mrs. Henry M. Trench. A total of 47 species and 10,600 individuals were enumerated.

The officers for the years 1938-1940 were as follows: Mr. Howard H. Cleaves, president; Mr. Wm. T. Davis, first vice-president; Mrs. H. M. Trench, second vice-president; Mrs. L. A. Dreyfus, third vice-president; Dr. Frank A. Strauss, fourth vice-president; Mr. Carlton Beil, field secretary, and Mr. Chas. W. Leng, secretary-treasurer.

STATEN ISLAND CAMERA CLUB

BY KENNETH ADAMS

The Camera Club met twice each month from September to May. One meeting, in general, was given over to print competition and a club speaker entertained at the second.

During the 1938-1939 season monthly competition subjects included: Beans, Scavenger Hunt, Summer Vacation, Sports, Paper Negatives, Music, Smoke and Street Scene. Winners in these groups were: T. Greenslade, W. Benjaminson, A. Ghiloni, W. Flander, A. Bonja and P. Benjaminson.

Club speakers and their subjects were: A. Ghiloni, Portrait and Ordinary Lighting; A. Luce, Photography in Criminal Investigation; A. Luce, Aetna Life Insurance Moving Pictures; Luce-Lasher, Demonstration Negative Exposures; A. Ghiloni, Application of "Dope" on Negatives; A. Bonja, Viewing of 150 Color Slides.

Monthly guest speakers and their subjects were: Ernest E. Draper, Table Top Photography; Gay Haredeen, Composition; Carl Trevelyan, Conception to Completion of Print; Morris Germaine, Texture Triumphs over Grain; Harry Prever, Fine Grain.

Other activities of the Camera Club during the year included: a Richmond outing in June; an organization of the bi-monthly bulletin in January; two exhibitions of prints, one in January at the Staten Island Museum and one at the West Brighion Library in March; an exhibition, in April, of Metropolitan Camera Club prints; the publishing of the year book in May; and finally in June, an annual party held at the Walker Club.

The officers for this period were as follows: Thomas B. Greenslade, president; Mrs. Frederic Adams and Dayton H. Lasher, secretaries, and Arthur G. Haslam, treasurer.

During the 1939-1940 season monthly competition subjects included: Clouds, Marine, Portrait, Landscape, Snow and Still Life. Winners in these groups were: T. Greenslade, L. Verkuil, D. Lasher, D. Vanderbilt and L. Verkuil.

Club speakers and their subjects were: E. Adams, "Color Photography"; D. Lasher, "Dark Room Gadgets"; G. Kelley, "Speed Graphic"; P. Benjaminson, "Speed Photography"; T. Greenslade, "Photo-Chemistry"; W. Condit, "Print Toning"; A. Haslam, "Success of Mounting Prints"; A. Bonja, "Natural Color of the World's Fair."

The monthly guest speakers and their subjects were: Ernest E. Draper, "Composition and Lighting"; Victor DePalma, "Journalistic Photography"; C. W. Gibbs, A.R.P.S. "Paper Negatives"; Arthur Mawhinney, "Simplicity

in Pictorial Photography"; Fred Offenbach, "Panchromatic Make-up"; John Muller, "Amateur Photography"; Carroll M. Guest, "Pictorial Print Quality."

The other activities of the Staten Island Camera Club included: the Westchester Camera Club Outing on Staten Island in September; an Exhibition and a Public Showing of World's Fair Color Slides by A. Bonja in January and a Public Showing at the St. George Theater in May.

The officers for this period were: Kenneth Adams, president; Dayton H. Lasher, secretary, and William Luce, treasurer.

STATEN ISLAND HORTICULTURAL SOCIETY

BY FRANK P. BAUMANN

In addition to the quarterly business meetings this society has held seven flower shows, four during 1938 and three in 1939. The officers for the period were: Fred S. Heal, president; Fred A. Holder-Egger, first vice-president; Herbert F. Kolb, second vice-president, and Frank P. Baumann, secretary-treasurer. Trustees were: Matthew Lehn, Fred D. Drake and William Kronenbitter.

The non-competitive Iris show was held May 29-30, 1938, Mrs. F. A. Holder-Egger, chairman. The 1939 show was cancelled on account of unfavorable weather.

The 1938 Rose show, Mrs. Homer E. Marshall, chairman, and Otto W. Lundt, judge, was held June 4 and 5. Winners were: best rose, F. S. Cooke; best basket, R. C. Wigand; best vase, Mrs. M. A. Hunn; best 5 roses, Mrs. W. H. Pott; best 10, Homer E. Marshall; best 15-20, R. C. Wigand.

The Dahlia Show was held Oct. 8-9 with F. A. Holder-Egger, chairman, and Bromley Munro, judge. Winners were: silver medal, Hans Olsen; bronze medals, Vincent Montanti, Fred Drake, Matthew Lehn, Arthur Kensler, Hans Olson, Albert Augustine, Mrs. Fred. S. Heal, Edgar Sleight, John Johnson and Mrs. Walter Booth.

The Chrysanthemum show was held Oct. 29-30. Herbert Kolb was chairman and G. F. Woerner and Harry Hardt were judges. Winners were: bronze sweepstage medal, William Kronenbitter; bronze medal, Fred W. Harder; best baskets, I. J. Persichetty and Mrs. Herbert Kolb; best vases, J. Vines and F. A. Holder-Egger; best collections, I. J. Persichetty, Matthew Lehn, F. A. Holder-Egger and William Kronenbitter.

The 1939 Rose Show was held June 13-14 with Mrs. Homer E. Marshall, chairman, and Otto Lundt, judge. Winners were: best rose, Mrs. W. H. Pott; best basket, R. C. Wigand; best vase, Mrs. F. S. Cooke; best 5 roses, Mrs. C. F. Grieshaber; best 10, Mrs. W. H. Pott; best 15, Mrs. W. H. Pott.

The Dahlia Show was held Sept. 23-24 with Mr. F. A. Holder-Egger, chairman, and William A. Waite, judge. Winners: the H. W. Rowedder memorial medal, Matthew Lehn; largest flower, Winifred Carter; bronze medal, Vincent Montanti and Frank Roth; best basket, Fred Drake; best vase, John Johnsen; best 10 dahlias, I. J. Persichetty; best 20-30, Albert Augustine, John Johnsen, Fred Drake; best pompoms, Mrs. F. S. Heal; best basket, pompoms, Mrs. E. A. Sleight; best vase, miniatures, Mrs. F. A. Holder-Egger.

The final show was the Chrysanthemum Show, held Oct. 28-29, 1939, Herbert F. Kolb, chairman. Winners were: Bronze medal, I. J. Persichetty; best baskets, I. J. Persichetty and F. A. Holder-Egger; best collections, I. J. Persichetty, F. A. Holder-Egger and William Kronenbitter.

STATEN ISLAND MICROSCOPICAL SOCIETY

BY JOSEPH F. BURKE

The officers for the year 1938-1939 were: Mr. I. C. G. Cooper, president; Mr. Joseph F. Burke, secretary. Seven regular meetings were held as follows:

Meeting of October 5, 1938.—Reports by Members and Demonstration of newly acquired Micro-Projector.

Meeting of November 2, 1938.—Mrs. Gladys H. Wilmott, Projection of Living Organisms.

Meeting of December 7, 1938.—Mr. George E. Ashby, Slide Making with Canada Balsam.

Meeting of January 4, 1939.—Dr. Wm. H. Wiegmann, Slide Making with Glycerine and Glycerine Jelly.

Meeting of February 1, 1939.—Reports and Exhibits by Members.

Institute Meeting, March 18, 1939.—Annual Exhibition. Directed by the Staten Island Microscopical Society. Thirty-three exhibitors.

Meeting of April 5, 1939.—Dr. Ralph W. Nauss, Simple Staining Methods in Slide Making.

The officers for the year 1939-1940 were: Mrs. Ruth N. Nauss, president; Mr. George Ashby, secretary.

The following is the record of meetings held in this period:

Meeting of October 4, 1939.—Reports and Exhibits by Members.

Meeting of November 1, 1939.—Reports and Exhibits by Members.

Meeting of December 6, 1939.—Mr. I. C. G. Cooper, Some Recent Finds.

Meeting of January 3, 1940.—Mr. Frederick W. Brock, Movies of Living Protozoa. Annual Meeting. Mrs. Ruth N. Nauss was elected president; Mr. I. C. G. Cooper, vice-president; Mr. George E. Ashby, secretary, and Mr. Joseph F. Burke, treasurer.

Meeting of February 7, 1940.—Mr. George E. Ashby, Fossil Plant and Animal Remains in Rock Sections.

Institute Meeting, March 16, 1940.—Annual Exhibition. Directed by the Staten Island Microscopical Society. Thirty-nine exhibitors.

Meeting of April 3, 1940.—Reports and Exhibits by Members.

STATEN ISLAND PHILATELIC SOCIETY

BY MRS. EVA R. BONNEY

The Philatelic Society met regularly twice a month. For two successive years the officers were as follows: Anselm Nascher, president; Edgar Hasson, vice-president; Miss Edith Berry, secretary; and Miss Helen Loeffler,

treasurer. Included on the board of governors were Henry J. Murray, Rev. Hermann Meyer, Leo Kroner, Mrs. Vivien Prien and Mrs. Eva R. Bonney.

One meeting each month was devoted to stamp exchange and informal discussions. The other had programs which were planned to be of general interest to philatelists and their friends. These included a series of lectures on methods of printing, the study of paper, types of cancellations and other topics of value to stamp collectors. A series of quizzes was conducted. From time to time competitive exhibits were held.

The Philatelic Society had auctions twice each year. Henry J. Murray was chairman for these events and Clare Brown the auctioneer.

The entertainment committee, headed by Mrs. Vivien Prien, held its three annual social events. These were: the party during December, the dinner in April and the spring festival in June.

At the annual meeting in April, 1940, the new slate of officers elected was as follows: Leo Kroner, president; C. D. Farlin, vice-president; Mrs. George Baker, secretary; and Mrs. Vivien Prien, treasurer. The board of governors is composed of Anselm Nascher, Henry J. Murray, Daniel Schneider, Miss Helen Loeffler, and Mrs. Eva R. Bonney.

During the week of May 6, 1940 a stamp exhibition was held in the auditorium in connection with the postal celebration. Daniel M. Schneider was chairman for this event. Stamps were displayed by members of the Society, covering a wide range of specialties in philately. On the opening evening Dr. I. L. Nascher gave an address outlining the history of postal service throughout the ages. He also explained the several reasons for the popularity of stamp collecting as a hobby.

DONORS

George Ashby	Morris Lunn
Mrs. Eva R. Bonney	Chas. E. Lyman
D. L. Bridgman	Frank B. Lyman
Rollo Brightsen	Lawrence Maleski
Arthur Britton	Grade 4, P. S. 40, Richmond
W. R. Britton	Miss Ida M. Mellen
Dr. Sidney Carney	Capt. & Mrs. T. I. Miller
Miss Janet Carstang	Dr. Roy Miner
Chas. Scribner's Sons	Dr. Ross Negrelli, N. Y. Aquarium
George Chrystie	N. Y. Historical Society
James Guyon Clark	N. Y. State Conservation Dept.
Miss S. Gertrude Clark	Oberlaender Trust Co.
H. H. Cleaves	Robert O'Connor
Miss Elsie Cobbon	Mrs. G. S. Parsons
Columbia University Press	Chas. F. Patterson
J. H. Crittenden	Alfred Perlmutter
Nicolas Damaras	Mrs. T. S. Poole
Wm. T. Davis	Miss Agnes L. Pollard
Estate of E. C. Delavan, Jr.	Dr. Wm. T. Procter
Mrs. A. B. De Puy	I. M. Prokofieff
Mrs. L. A. Dreyfus	Estate of John Rader
George Elder	Mrs. Henriette Reynolds
L. A. Ellison	Mrs. Julius Schwarz
Federation of Mother's Clubs	Thos. W. Smith
Stuyvesant Fish	Miss Edna E. Snow
Mrs. Victor Garrett	Estate of E. B. Southwick
George Gehman	S. I. Philatelic Society
Mrs. Amy Griffith	Stephen Varni Co.
Mr. & Mrs. Chas. G. Hine, through Wm. T. Davis	Miss Miriam Strauss
C. Henry Holterman	Carol Stryker
Henry Hunt	Donald Stock
Frederick A. Johnston	U. S. Treasury Dept.
Junior Red Cross	Huntington Walton
Carl F. Kauffeld	Stuart Werner
Thomas Kealy	F. W. White
Kinkel Quarry	Women's Auxiliary
John Koestner	W. P. A., Chas. C. Fisher, acting director
Mrs. Delia Kugler	William Young
Mrs. Susan N. Lawrence	

TREASURER'S REPORT

For the period May 20, 1939 to May 1, 1940

Analysis of Increases and Decreases

Increases :

Interest on securities	\$ 608.38
Interest on bank balances	291.68
Dues from members	424.50
Dues from life members	100.00
Contributions for Britton cottage	172.09
Contributions to Davis fund	550.00
Bequest—John Rader	500.00
Gift—J. H. Crittenden	200.00
Rent—Woodrow property	660.00
Total increases—per Exhibit "A"	<u>\$3,506.65</u>

Decreases :

Publications	\$ 510.86
General science	40.54
Commissions to City Bank	25.00
Amortization of premium on securities	9.20
Sundry—Crooke fund	165.46
Expenses of Woodrow property	502.74
Purchase of films	114.75
Expenses of Britton cottage	330.33
Interest on bank loan	235.04
Sundry	420.19
Total Decreases—per Exhibit "A"	<u>\$2,354.11</u>

Summary of Assets

May 1, 1940

Securities :

In safe deposit box at Corn Exchange Bank Trust Co. :

U. S. Treasury, 2½%, due 1960	\$ 3,000.00
N. Y. Edison Co., 3¼%, due 1965	3,000.00
Illinois Bell Telephone Co., 3½%, due 1970	3,000.00
City of New York, 4½%, due 1957	2,000.00
Participation B/M, T. G. & T. Co., 5½%, past due	2,000.00
“ “ “ “ 5½%, past due	959.00
Prudence Bonds Corp., 5½%, due 1945	96.00
“ “ “ “ , voting trust scrip, 2/10 share	
Held by City Bank Farmers Trust Co. :	
Home Owners Loan Corp., 3%, due 1952	950.00

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Participation B/M, 501/5 Madison Ave., 4½%	2,000.00
“ “ , 537 Fifth Ave., 5%	100.00
Premium paid	36.82
	\$17,141.82
Cash :	
Staten Island Savings Bank, No. 32650	\$ 179.00
“ “ “ “ , Britton fund	6,537.36
Richmond County Savings Bank, No. 29637	206.28
“ “ “ “ , No. 39024	7,845.28
City Bank Farmers Trust Co., principal	34.18
“ “ “ “ , income	9.65
Corn Exchange Bank Trust Co., checking acct.	1,337.64
	16,149.39
Cost of building addition	35,043.39
Cost of Woodrow property	13,669.05
	\$82,003.65
Less—due to Corn Exchange Bank Trust Co.	3,200.00
Total assets	\$78,803.65

NOTE: The Institute also owns certain items of real and personal property, such as the original Museum building, the Britton cottage, furniture and equipment, exhibits, etc., which are not carried on the books.

Statement of Fund Balances

	1939-40			
	<i>Balances</i>	<i>Increases</i>	<i>Decreases</i>	<i>Balances</i>
	<i>May 20, 1939</i>			<i>May 1, 1940</i>
Nathaniel L. Britton legacy :				
Principal :				
Securities	\$ 9,000.00			\$ 9,000.00
Cash	13,862.33			13,862.33
	\$22,862.33			\$22,862.33
Income—cash	\$ 699.98	\$ 572.83	\$ 510.86	\$ 761.95
William T. Davis fund :				
Principal :				
Securities	\$ 3,050.00			\$ 3,050.00
Cash	24.98	9.20		34.18
Premiums on securities ..	46.02	(9.20)		36.82
Due from Building fund .	4,875.00	550.00		5,425.00
“ “ Woodrow prop-				
erty	3,669.05			3,669.05
	\$11,665.05			\$12,215.05
Income—cash	\$ 197.35	130.08	74.74	\$ 252.69

John J. Crooke fund:

Principal:

Securities	\$ 2,000.00			\$ 2,000.00
Income—cash	(\$19.95)	45.00	25.05	

Endowment fund:

Principal:

Securities	\$ 2,984.99	(25.99)		\$ 2,959.00
Cash	15.01	25.99		41.00
Due from Woodrow prop- erty	10,000.00			10,000.00
	<u>\$13,000.00</u>			<u>\$13,000.00</u>

Income—cash		143.70	143.70	
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D. M. Van Name fund:

Principal:

Securities	\$ 96.00			\$ 96.00
Cash	4.00			4.00
	<u>\$ 100.00</u>			<u>\$ 100.00</u>
Income—cash	\$ 53.05	4.93		\$ 57.98

Woodrow property:

Cost of property	\$13,669.05			\$13,669.05
Due to Davis fund	(3,669.05)			(3,669.05)
Due to Endowment fund ..	(10,000.00)			(10,000.00)
	<u>-0-</u>			<u>-0-</u>
Income—cash	\$ 399.57	660.00	902.74	\$ 156.83

Building fund:

Principal:

Cost of addition	\$35,043.39			\$35,043.39
Due to Corn Exchange Bank	(4,200.00)		(1,000.00)	(3,200.00)
Due to Davis fund	(4,875.00)		550.00	(5,425.00)
	<u>\$25,968.39</u>			<u>\$26,418.39</u>

General funds—cash:

Science and education	\$ 175.52	3.52	114.75	\$ 64.29
John Rader		500.00		500.00
J. H. Crittenden		200.00		200.00
Britton cottage	129.19	172.09	301.28	
Other	420.63	524.50	730.99	214.14

Totals \$77,651.11 \$3,506.65 \$2,354.11 \$78,803.65

NOTE: Figures in parentheses are "red" figures (debits or charges).

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Vol. 1, Oct. 1918—May 1922, p. 1-165, *pl. 1-4*. 1923.

Vol. 2, Oct. 1922—May 1924, p. 1-186. 1924. (Pt. 1, Special Issue.)

Special Issue, Jan. 1924. List of the Coleoptera of Staten Island, by Charles W. Leng and William T. Davis. 82 p. and index. Price \$1.25.

Vol. 3, Oct. 1924—May 1925, p. 1-154. 1926.

Vol. 4, Oct. 1925—May 1927, p. 1-138, *pl. 1-4*. 1928.

Vol. 5, Oct. 1927—May 1930, p. 1-205. 1930-1931.

Vol. 6, Oct. 1930—May 1932, p. 1-220, *pl. 1-8*. 1931-1933.

Vol. 7, Oct. 1932—May 1936, p. 1-164, *pl. 1-4*, and *map*. 1933-1935.

Vol. 8, Oct. 1934—May 1938, parts 1-4, p. 1-170, *pl. 1-3*. 1937-1938.

Special Publication, Nov. 12, 1931. History of the Staten Island Institute of Arts and Sciences, prepared for Semi-Centennial Meeting; list of members included. 24 p. illus. Price 50 cts.

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PROCEEDINGS
OF THE
STATEN ISLAND INSTITUTE
OF
ARTS AND SCIENCES

EDITED BY
JOSEPH F. BURKE, WILLIAM T. DAVIS
ROSWELL S. COLES
PUBLICATION COMMITTEE

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Issued September 24, 1941
Staten Island, N. Y.
THE SCIENCE PRESS PRINTING COMPANY
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PROCEEDINGS
OF THE
STATEN ISLAND INSTITUTE
OF
ARTS AND SCIENCES

VOLUME IX

OCTOBER 1940—MAY 1941

EDITED BY
JOSEPH F. BURKE, WILLIAM T. DAVIS
ROSWELL S. COLES
PUBLICATION COMMITTEE

PUBLISHED BY THE
STATEN ISLAND INSTITUTE OF ARTS AND SCIENCES
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1941

THE SCIENCE PRESS PRINTING COMPANY
LANCASTER, PENNSYLVANIA

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(Photograph by Wm. T. Davis, Oct. 15, 1914)
CHARLES W. LENG

PROCEEDINGS
OF THE
STATEN ISLAND INSTITUTE
OF
ARTS AND SCIENCES

VOL. 9

OCT., 1940-MAY, 1941

PART 3

Charles William Leng

WILLIAM T. DAVIS

Charles W. Leng, Director of the Staten Island Institute of Arts and Sciences, died at his home, 439 Clove Road, on January 24, 1941. He was born at the home of his grandparents on Castleton Avenue, West New Brighton, Staten Island, April 6, 1859, but shortly thereafter the Leng family removed to Brooklyn, Long Island, and resided, at least for a time, at 275 Clermont Avenue.

The Bulletin of the Brooklyn Entomological Society for February, 1923, contains Mr. Leng's "Memories of Fifty Years Ago," wherein he gives, in a most interesting and pleasing manner, biographical items of his boyhood days; how he became interested in insects in 1872; of organizing the Polytechnic Entomological Society and of joining the Brooklyn Entomological Society when he was 16 years of age.

While living in Brooklyn he attended the Lafayette Institute, and later the Brooklyn Collegiate and Polytechnic Institute, graduating with the degree of Bachelor of Science in Engineering in 1877. Owing to the trend of his studies he had become a draftsman, and so it fell to his lot to prepare the seal used on the cover of the first number of the *Bulletin of the Brooklyn Entomological Society*, issued in 1878. The seal is still in use by the Society,

and Mr. Leng used to explain that the central figure of the tiger beetle, *Cincindela schauppi*, had been supplied by his friend and adviser in things entomological, Franz Schaupp, who was also his instructor in the German language.

In 1879 the family returned to Staten Island and resided at what is now 990 Castleton Avenue, a short distance to the east from the home of his grandparents, the Wilsons, where he was born. Later Mr. Leng, Sr., purchased the Alban C. Stimers property at 508 Clove Road, where the family resided for a number of years.

Learning from the *Naturalists' Directory* in 1879, that N. L. Britton lived at New Dorp, and was interested in sea-shore life, Mr. Leng wrote to him. This was the man, later one of the founders of our Staten Island Institute, who became one of America's foremost botanists, and also one of the founders of the New York Botanical Garden, and its first Director. In 1879 he was a student in Columbia College School of Mines, and the writer often met him on the ferry boat. One morning he produced the letter received from Mr. Leng, and suggested that, as I lived rather near, I had better call on our new resident naturalist. So it happened that in March, 1879, I met the man who was to be my friend for over sixty one years, and to whom I owe so much. He was a genial and helpful friend, and we almost immediately commenced our walks afield together, which in later years led to far off places.

When the Natural Science Association of Staten Island was started on November 12, 1881, Mr. Leng attended and was elected its first recording secretary, serving in that capacity until 1885. Meanwhile he continued his interest in the Brooklyn Entomological Society, and when it was incorporated in January, 1885, he served as one of the six incorporators. It is of interest that he again was able to serve as one of its incorporators more than fifty years later, when the Brooklyn Society was re-incorporated in 1936. On December 14, 1922 he was elected Honorary President of the Brooklyn Society.

Although what appears to have been Mr. Leng's earliest contribution to entomology, a list of the "Cincindelidae of Staten Island," published in the PROCEEDINGS OF THE NATURAL SCIENCE ASSOCIATION OF STATEN ISLAND for January 12, 1884, he, at about the same time, commenced the publication of his important

paper, a "Synopsis of the Cerambycidae," in the "Bulletin of the Brooklyn Entomological Society." This paper was continued in "Entomologica Americana," and finally brought to a close in 1896 by the publication, in the "Transactions of the American Entomological Society," of the "Lamiinae," of which Leng and Dr. John Hamilton were co-authors.

Mr. Leng was also an early contributor to the "*Journal of the New York Entomological Society*," and in 1893, he and Mr. Beutenmuller commenced the publication of a "List of the Coleoptera of North Eastern America," and also of a "Preliminary Handbook of the Coleoptera of North Eastern America." He joined the New York Society in 1902 and became a regular attendant at its meetings. He was elected its Vice President, January 6, 1903, and served as its President from January 15, 1907, to January 2, 1912, when he became Secretary. He held that office for 19 years, or until January 6, 1931, during which time he kept accurate and interesting minutes, as will be found by consulting the published records of the Society. Mr. Leng was always anxious to preserve the memory of his friends, and he published appreciative notices of their lives in the publications of the Brooklyn and New York Entomological Societies, as well as in those of the Staten Island Institute.

To the published volumes of the PROCEEDINGS OF THE NATURAL SCIENCE ASSOCIATION OF STATEN ISLAND (1883-1905), Mr. Leng contributed many items, chiefly relating to the beetles of the Island, and he also drew a map to accompany a paper by the writer, on "Staten Island Names, Ye Olde Names and Nick Names," published in 1896. In 1905 the Staten Island Association of Arts and Sciences was incorporated to succeed the Staten Island Natural Science Association, and this in turn became the Staten Island Institute of Arts and Sciences in 1918. During these years Mr. Leng continued his contributions chiefly on the beetles of the Island. On May 26, 1917, he was elected Secretary of the Board of Trustees, and on May 31, 1919 he was appointed Director of the Institute.

During his early life Mr. Leng had been associated with his father in the iron business, and later the business was continued under the name of John S. Leng's Son & Co., Iron Merchants. The firm also dealt in bicycles, when they became popular, and

one of the activities of this period of his life was connected with the publication, in 1912, of a volume of 285 pages on "Bicycle and Motorcycle Repairing, Seventh Edition, Revised and Enlarged by Charles W. Leng, former President National Cycle Trade Association."

In 1916 appeared the "Rhynchophora or Weevils of North Eastern America" by W. S. Blatchley and C. W. Leng. This important and useful manual gives descriptions of nearly 1,100 species, and includes many illustrations.

In 1920 Mr. John D. Sherman, Jr., published Mr. Leng's monumental work, a "Catalogue of the Coleoptera of America, North of Mexico," which lists over 18,000 species, citing the original description of each, and giving in a general way its known distribution. This great work includes an Essay on Classification, as well as a Bibliography of Taxonomic Coleopterology (to January 1st, 1919). In the bibliography he lists 141 of his own papers on Coleoptera or notices of the passing of his entomological friends. It is with pride that we find it stated on the title page of the Catalogue that the author is the Director of the Staten Island Institute of Arts and Sciences, as well as a Research Associate of the American Museum of Natural History.

After the publication of the Catalogue a "List of the Coleoptera of Staten Island, New York" was undertaken by Mr. Leng and the writer. This was published in January, 1924 as part of Volume 2 of the PROCEEDINGS OF THE STATEN ISLAND INSTITUTE OF ARTS AND SCIENCES, and 1600 species were recorded. The collection upon which this list was founded is preserved in the museum at St. George.

After becoming Director of the Institute, Mr. Leng gave considerable attention to the matter of local history. He, with Mr. Royden W. Vosburgh and the writer, copied several thousand gravestone inscriptions which naturally led to an interest in the cemeteries often connected with the churches of the Island. In 1923 Mr. Leng published in the PROCEEDINGS OF THE STATEN ISLAND INSTITUTE OF ARTS AND SCIENCES, a paper on the "Ecclesiastical History of Staten Island in the 17th Century." This paper deals also with the early settlers of the Island and their efforts to establish permanent homes. All of the above-mentioned gravestone inscriptions have been published, some in book form,

as for example "The Church of St. Andrew," which appeared in 1925.

In 1919 the office of "Borough Historian" had been created by the State Legislature and to this office Mr. Leng was appointed by Borough President Calvin D. Van Name in 1922, and served until August 9, 1934.

On September 28, 1922, he was elected a Director of the re-organized Staten Island Historical Society, and served until 1934. He also assisted in having the old County Clerk's Office in Richmond set aside for the Historical Society for museum purposes.

In 1924 appeared: "A condensed History of Staten Island," by Charles W. Leng and Edward C. Delavan, Jr. Of this short history a great many copies were distributed by The Staten Island Edison Corporation. Mr. Leng served the Conference House Association, organized in 1925, as its Secretary until 1928 and also with Mr. Vosburgh and the writer, in delving into the history of the old Billopp House and its owners.

About this time Mr. R. E. Roberts of the Lewis Historical Publishing Company visited the Museum at St. George, and suggested the preparation of an extensive "History of Staten Island and Its People," of which Mr. Leng and the writer were to be the authors. The first four volumes of the work appeared in 1930 and being favorably received, it was decided to publish a fifth volume, which appeared in 1933.

In the "Proceedings" of the Institute during the years 1924 to 1932 appear many pages of "Anthon's Notes" compiled by John Anthon and his son Charles E. Anthon between the years 1839 and 1851. Mr. Stuyvesant Fish of New York, owner of the original manuscript books dealing with the history of the Island, presented them to the Institute, and Mr. Leng spent much time in transcribing them for publication.

In "Natural History" for 1924, published by the American Museum of Natural History, there is an illustrated article on: "The Public Museum of Staten Island" by Mr. Leng and he also prepared a "History of the Staten Island Institute of Arts and Sciences" for the Semi-Centennial meeting held November 12, 1931. For many years he aided the Bird Club as its Secretary-Treasurer. He attended the walks of the Bird Club, and the meetings of the Nature Club for more than twenty years, or until failing

health prevented. He was also of great help to many Staten Islanders in tracing their family connections, for he became a proficient local genealogist.

It will be seen from the fore-going, that during his long and useful life Mr. Leng accomplished a great deal for Staten Island, and his kind and genial disposition, as well as his useful knowledge, attracted many to the Museum of the Staten Island Institute of Arts and Sciences.

PLATE XII



(Photograph by E. Burgher, 1939)

TRAVIS (LONG NECK) INDIAN SITE LOOKING NORTH FROM VICTORY
BOULEVARD



(Photograph by E. Burgher, 1939)

LOOKING SOUTH TOWARD LINOLEUM FACTORY

The Indian Site at Travis

ELLIOTT BURGHER

During the sixty years in which the Staten Island Institute of Arts and Sciences (with the Natural Science Association and the Association of Arts and Sciences) has been interested in Indian life, a considerable literature has been published about Indian sites in various numbers of the "Proceedings," especially by Wm. T. Davis and Alanson Skinner.

However, except for a brief reference in the "Proceedings of the Natural Science Association," Vol. VIII, No. 22 (April 11, 1903), one from "Anthropological Papers of the American Museum of Natural History," Vol. III (1909) also by Skinner, and a statement in Leng and Davis, "History of Staten Island and Its People," Vol. I, p. 80, no attention seems to have been paid to the Travis site. The considerable number of Indian objects found here as well as the development of this area during the past year into the Richmond County Airport makes this issue of the "Proceedings" a fitting place to record at some length the collections from Travis.

Writing about the Decker Collection from Watchogue in the "Proceedings of the Staten Island Association of Arts and Sciences" in 1913 Skinner said, "Its value is enhanced by the fact that building operations are constantly encroaching upon our Staten Island Indian sites, and a few years hence we shall see the end of archaeological research in the Borough of Richmond." With the establishment of the airport at Travis another of the Staten Island sites passes into history.

The site is situated on the north side of Victory Boulevard at Travis (formerly Linoleumville) and is bounded by Glen Avenue, Cannon Avenue and the Arthur Kill. In earlier references the site is called "Long Neck, north side." (Pl. XII.) The ground is sandy and considerable digging has been necessary during the past twenty years, as long before that time the surface finds had been picked up.

Some of the men who have been digging on this site during the past twenty years are: Joseph Kaiser, Lambert Helgers, the Simons

brothers, George Decker, Orville Merrell, Peter Decker, Clarence Merrell, Donald Sainz, Robert McMahon and Elliott Burgher.

From the number of artifacts discovered here it would seem to be one of the largest Indian sites on Staten Island, and the quantity of perfect implements found leads one to believe that the Indians left the spot suddenly. They may have been driven off by the Dutch or English, or forced to leave by the final purchase of the Island by Gov. Lovelace. The first record of white occupation on the site is a land grant to Andrew Canon in 1686. (Leng and Davis, Vol. II, p. 873)

The culture of these Indians has been described quite fully, especially by Skinner in the "Anthropological Papers" noted above. It seems unnecessary to include more here than the statement that the implements at the Travis site bear out the Algonkian culture with Iroquois influence common on the north side of our Island.

About 75% of the material found on this site is in the Burgher collection. Some 300 of the finest pieces of this collection are now on display in the Museum of the Staten Island Institute of Arts and Sciences.

Articles Found on the Site

Plate XIII

Arrow points. Over 3000 of all types found. These are: stem or notched, triangular, round back, double-notched back and square back. The most common is the stem or notched type. Materials used are: black, gray, brown flint with an occasional piece of traded green flint, black and brown jasper, slate, argillite, trap and quartz. No bone or antler points seem to have been found. Thirty-three large arrow points, about 4 inches long, made from flint have been found. Figs. 1, 3.

Drills. Fifty-two found. These are of two types, the elongated narrow blade and the expanded-base type, one used mounted on a stick and the other held in the hand. Fig. 2.

Bannerstones. These are beautifully polished and include six notched, three grooved and perforated, sixteen plain and eight butterfly types, as well as seven partly completed stones. Figs. 4-7. The three pieces shown in fig. 5 were found by three different men digging over a period of five years.

Beads. Seven beads of stone or small pebbles and perforated, and two of shell were also found. Fig. 8.

PLATE XIII

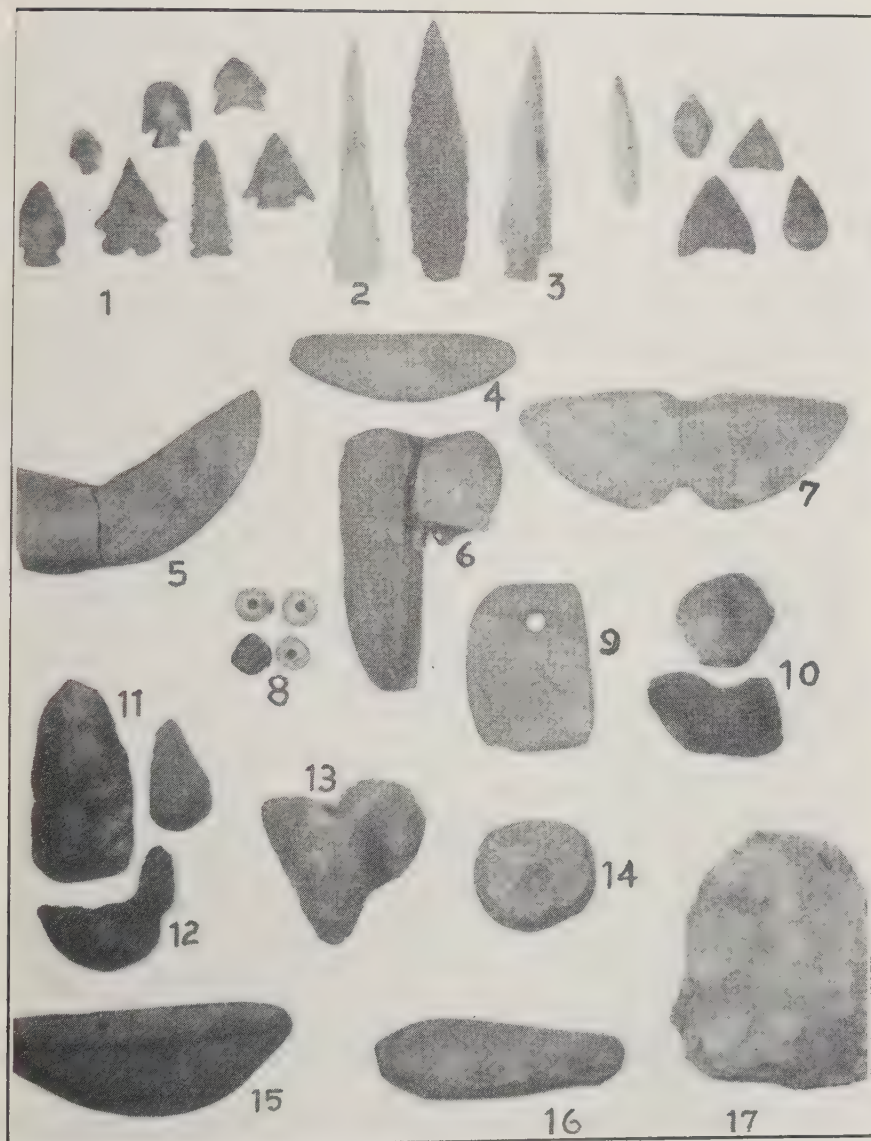
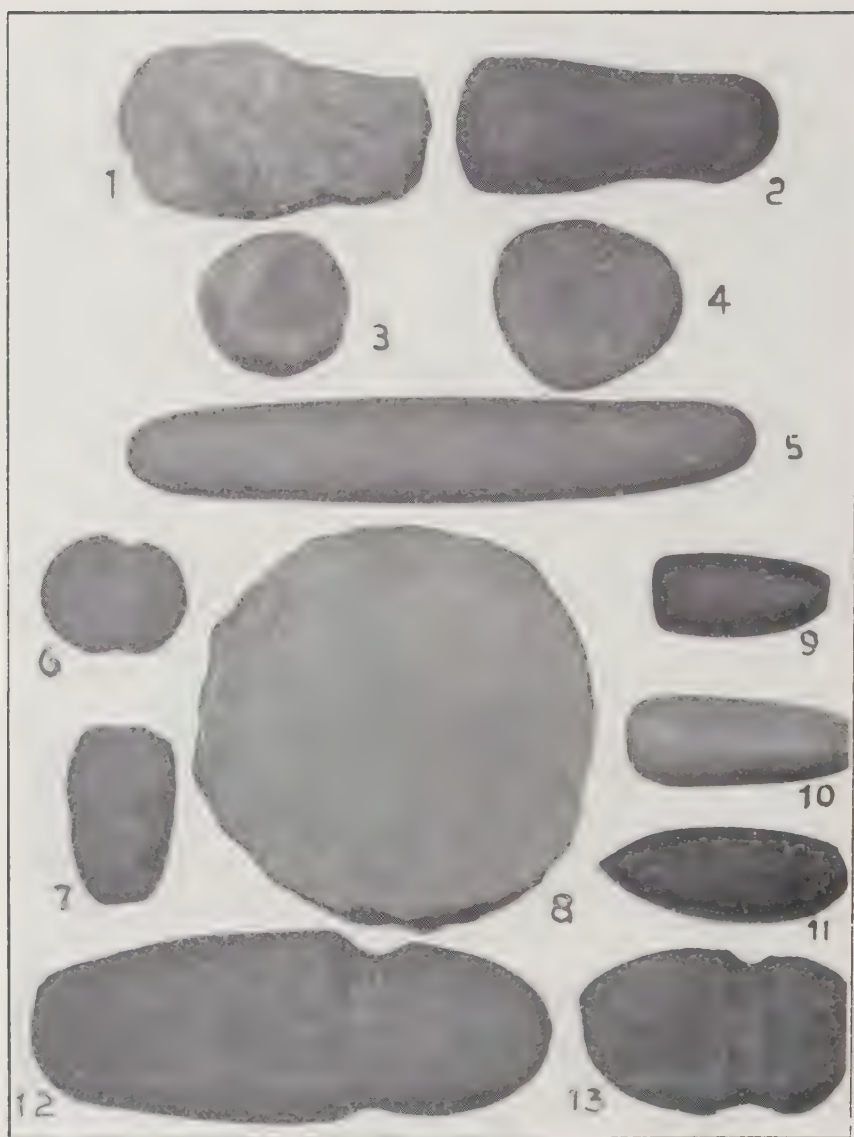


PLATE XIV



Gorgets. Three of the single holed type fig. 9, and six of the double holed type, rectangular in shape have been found on this site.

Paint cups and pigments. Eight cups made from geodes, and four others from steatite and stone were found, also about 2 lbs. of small pieces of paint stone of limonite. Fig. 10.

Scrapers. Broken arrow points made over and large flint chips worked on one edge. Forty-three of the former and over one hundred of the latter have been found. Fig. 11.

Knives. Twenty four large flat flaked knives have been found. An unusual ground flaked flint knife and a large flint piece are shown. Figs. 12, 17.

Arrowshaft stones. Eight have a groove on one side and two are grooved on both sides. Fig. 13. These are usually made from sandstone.

Semilunar knives. Four knives made of red slate and eight of gray slate rubbed to a sharp edge. Many broken pieces have been found. Fig. 15.

Stone plummets. Very rare on this site. The one shown, fig. 16, is the only one found of which I know.

Plate XIV

Hoes. Sixteen have been found. Some are notched to facilitate hafting. Fig. 1.

Pestles. These are of two types, the long, of about 18 inches, of which there are twenty-one, fig. 5, and the dumb-bell shape, fig. 2, which is very rare, this being the only one found.

Mullers, grinders and polishing stones. These are common and are usually rounded stones. Approximately sixty have been found. Fig. 3.

Stone mortars. All types have been found including eight having the hole on one side, and three with the hole on both sides in the portable type. The one illustrated, fig. 8, is flat across the top.

Stone clubs. Hard stone, pecked with a wide groove. Fig. 6. Four have been found.

Net sinkers. Thirty-five specimens of four types were found: those notched on both sides, notched on four sides, pecked around one way, and pecked around both ways. Fig. 7.

Celts. The seventeen found on this site are generally well made.

Several types are found: the wedge-shaped poll narrower than the bit, fig. 9; one side flat and beveled at one end, fig. 10; and four sides almost square and rubbed to a sharp cutting edge, fig. 11. The bell-mouthed type is also found here.

Adzes. Of those found there seem to be three types: the celt-like type, flat on one side, the other being beveled to an edge; the second is grooved; and the third has two parallel grooves. Fig. 13. Twenty-one were found.

Grooved axes. Those found are of the following types:

1. Groove encircling the entire blade.
2. Groove encircling three sides of the blade; longitudinal groove on the flat side.

3. Notched on two sides.

4. Ridged groove encircling the blade.

5. Groove encircling three sides of the blade, one side flat.

Some of the axes are worked all over, some only worked on the blade and top. A few axes broken to shape have been found, some of these being very rough. Broken axes remade to smaller axes have also been found. One hundred and seven axes have been collected. Fig. 12.

Plate XV

Trade Articles

Pipes. Those found are of many varieties including "R. Tip-pet," "Peter Dorne" and other fancy white and red clay bowls and stems. Figs. 1, 2, and 3.

Rings and beads. Three brass wedding-rings and twenty-two glass beads have been found on this site, also a jew's-harp. Figs. 4, 5.

Gun flints. Eighteen English, Continental Europe, and American have been found. Figs. 9, 10, and 11.

Lead bullets. Twenty-three pieces of lead to make bullets and lead balls were found. Figs. 12, 13, and 14.

Articles of Copper

Beads. Made of native copper rolled into a small tube from a hammered sheet of copper. Fig. 6.

Arrow heads. Very rare made of copper. Fig. 7 shows one found on this site.

PLATE XV

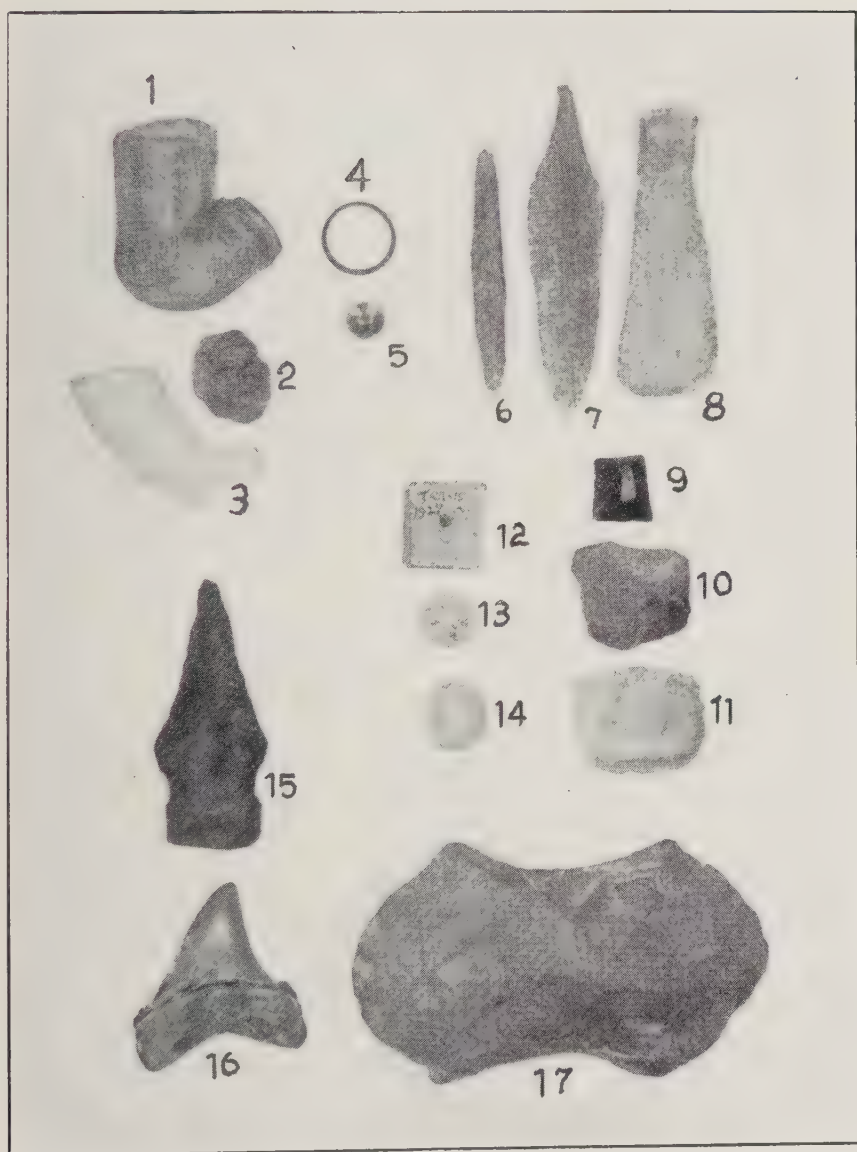


PLATE XVI



Celts. Very rare made of copper. The one shown in fig. 8 was found with a stone axe.

These are about the only copper pieces found on this site.

Trade Implements from Other Tribes

Arrow head. Spin type arrow of brown flint. The design and flaking of this arrow are similar to those found in Virginia. Fig. 15.

Shark's teeth. Four petrified teeth from Virginia or South Carolina. Fig. 16.

Celt. The chipped celt of brown sugar quartz is native of Maryland and some other southern states. Fig. 17 is typical of that region.

Plate XVI

Pottery vessels. The pottery vessels found on this site are of either the native Algonkian or the type showing Iroquois influence. Fragments of about one hundred and seventy Algonkian vessels have been found. They are divided into the following groups:

1. Conical, pointed bottom, slightly swollen sides with the circumference largest at the mouth. Fig. 7. This vessel, partly reconstructed, is from pieces found all in one spot about ten inches under the surface.

2. Conical, pointed bottom, slightly swollen sides with lug ears or handles just at the beginning of the neck. Fig. 4 shows a piece with lug.

3. Rounded bottom, slightly swollen side, with lip slightly flaring.

Some of the decorations show unusual patterns. Figs. 1, 2, 3, 5, and 6. On fig. 8 the Iroquois influence is very prominent. It shows the reconstruction of a piece of the heavy rim with a chevron pattern, and the neck which is notched. The type vessel from which this piece has come is shown in fig. 9.

Stone dish. One has been found about 10 inches long and 5 inches wide. It is pecked out about one-half inch deep.

Broken pieces of steatite vessels have also been found on this site, though not enough for reconstruction.

Collecting Algae on Staten Island

I. C. G. COOPER

Those primitive plants, the *Algae*, which are almost at the foot of the ladder of evolution, occur in multitudinous forms ranging from microscopic single spherical cells to the giant rock weeds of the ocean. They can be found almost anywhere and in total number probably exceed all other plants if bacteria are excluded.

The algae of Staten Island have been little studied and less written about. In company with Dr. H. C. Bold and a group of graduate students from Columbia University, a trip was made on April 16, 1941 to secure a representative sampling of spring growths of the area.

Swinging east from St. George the first stop was at Clifton. The dirty beach from Quarantine to Ft. Wadsworth yields a dozen species of seaweed some of which are more beautiful than their habitat. Our interest there centered upon the green filaments of *Hormiscia penicilliformis* and the tasseled *Pylaiella littoralis*.

At Oakwood, in a pool behind the dunes, a gathering included marine *Rhizoclonium*s and the water off the shore was in places thick with *Ulva lactuca* and *Porphyra atropurpurea*.

From a little pond east of Hyland Blvd., near Grant Ave., the fresh water specimens collected revealed some new records for the Island including *Mougeotia scalaris*, *Schroederia setigera* and also *Spirulina major*.

The next objective was Prince Bay, but, the tide having turned against us, we were disappointed in not being able to collect on the rocky bottom; however, floating in we found the beautiful red *Polysiphonia Harveyi*. After a brief pause for lunch we turned our attention to Wolfe's Pond. There we tried out a plankton net consisting of a conical bag fitted to the end of a long handle and furnished at the bottom with a filter felt which rests upon a disk of wire mesh. The net being slowly drawn through the water, catches the plankton content on the felt. Dr. Bold had with him a microscope thus enabling us to examine on the spot drops of water squeezed from the filter felts. The results were delightful and indicate the need of further study of the pond as to its floating plant

life. We found the water at Miss Morgan's home, 185 Bloomingdale Rd., to have a similar flora.

A drive along the new boulevard and Richmond Ave., brought us to Willowbrook Park. The lake there is comparatively new and has not yet a fully developed plankton. However, several algae are established upon the stems of submerged plants and at the south west overflow we collected a *Cladophora* and the interesting *Spirogyra bellis*.

The stream which forms the main outlet of the lake is an old drainage from the Bulls Head area and contains many forms. Near the bridge at Watchogue Rd. we gathered the most beautiful of all fresh water algae *Draparnaldia glomerata* which, although it is almost microscopic, has a well defined central filament and most delicately divided opposite branching of vivid emerald cells.

After a short stop at my home for a quencher and inspection of algae growing in culture media, the party proceeded to Clove Lakes where the principal attraction was the growth of *Cladophora Kuetzingiana* growing on the rocks below the upper dam. For several years, beneath splashing water, this perennial algae has coated the boulders with an overcoat of green. Other species collected at the lake included the long fine filaments of *Rhizoclonium hieroglyphicum*.

The approach of dusk ended collecting for the day. A subsequent study of collections taken in bottles revealed that we had found on this one trip, if diatoms are included, about fifty different species of those intriguing water plants called algae.

In the list which follows, species found on this spring trip are marked *. Diatoms, which are considered to be a distinct CLASS of algae, are not included in the list.

As the season progresses other varieties of algae will appear and in some cases take the place of those seen in the spring. Despite the recent extensive drainage of some areas and the closing off of other good collecting sections, the Island still offers inducements to nature students interested in algae.

All of the species included in the following tabulation have been seen within the past two years. I am indebted to Dr. Harold C. Bold of Barnard College, N. Y. C., and to Dr. Francis Drouet of the Field Museum of Natural History, Chicago, for some of the identifications.

Marine Forms

CLIFTON

- *Fucus vesiculosus
- *Enteromorpha intestinalis
- Enteromorpha compressa
- Bryopsis plumosa
- *Pylaiella littoralis
- *Porphyra atropurpurea
- Acrochaetium intermedium
- Dasya pedicellata
- Polysiphonia subtilissima
- Polysiphonia nigrescens
- *Hormiscia penicilliformis

OAKWOOD

- Enteromorpha plumosa
- *Enteromorpha Linza
- *Ulva Lactuca
- *Rhizoclonium riparium
- *Rhizoclonium tortuosum
- *Plectonema sp.
- Cladophora sp.
- *Ulothrix flacca

PRINCE BAY

- Gelidium crinale
- Agardhiella tenera
- Gracilaria foliifera
- Callithamnion byssoideum
- Ceramium rubrum
- Ceramium strictum
- Grinnellia americana
- *Polysiphonia Harveyi

Genera found but requiring further study:

- Symploca
- *Ectocarpus
- Ascophyllum
- Nemalion
- Oscillatoria
- Bangia
- Fucus sp.

Fresh Water Forms

CLOVE LAKES

- Microcystis aeruginosa
- Oscillatoria limosa
- Phormidium uncinatum
- Anabaena circinalis
- Calothrix parietina
- *Gonium sociale
- *Stigeoclonium nanum
- Stigeoclonium aestivale
- Chaetophora pisiformis
- *Cladophora Kuetzingiana
- *Rhizoclonium hieroglyphicum

HYLAN BLVD. POND

- *Spirulina major
- *Schroederia setigera
- *Mougeotia scalaris

WOLFE'S POND

- *Coelastrum microporum
- *Pediastrum tetras
- *Pediastrum simplex
- *Pediastrum duplex
- *Euglena viridis
- *Cosmarium botrytis
- *Dimorphococcus lunatus

HOME PONDS

- Oocystis Borgii
- Lagarheimia ciliata
- Ankistrodesmus falcatus
- *Scenedesmus quadricauda
- Stichococcus rivularis

BRADY'S POND

- Volvox globator

WILLOWBROOK AREA

Chroococcus limneticus
 *Tribonema bombycinum
 *Tribonema minus
 Synura uvella
 Pandorina morum
 Tetraspora gelatinosa
 Stichococcus subtilis
 Microspora sp.
 Stigeoclonium lubricum
 *Draparnaldia glomerata
 Microthamnion strictissimum
 *Protococcus viridis
 Pediatrum Boryanum
 Hydrodictyon reticulatum
 Eremosphaera viridis
 Vaucheria geminata
 Spirogyra decimina
 Spirogyra insignis
 Spirogyra dubia
 *Spirogyra bellis

Genera found but requiring further study:

*Dinobrium
 Chlamydomonas
 Oedogonium
 *Closterium
 *Euastrum
 Micrasterias
 Onychonema
 *Phacus
 *Trachelomonas
 *Chlorococcum
 *Chlorella
 *Cryptomonas
 *Staurostrum

Preliminary studies made by culturing small quantities of earth in nutrient agar have isolated the following:

Chlamydomonas sp.
 Chlorella vulgaris
 Stichococcus subtilis
 Palmellococcus minutus

Additions to the Staten Island List of Coleoptera

BORYS MALKIN

The following is a list of beetles not heretofore recorded from Staten Island. They were collected by the writer mostly in 1939 and to some extent in 1940. There are also included a few species taken by other collectors. Most of the beetles were found in the Great Kills section, where natural conditions have been preserved to a considerable extent, principally along the stream where the vegetation is abundant. Altogether about 500 species have been accumulated, which is nearly one third of the total number of species known from the Island. The relatively high percentage of new records indicates that the coleopterological fauna of the Island even yet has not been thoroughly explored.

Two of the species mentioned, *Trilliarthrus* (*Tachycellus*) *atri-medi-us* Say and *Agrilus lateralis* Say, were recorded from the Island in the 1909 "Report of the New Jersey State Museum" but the records were not cited in the "List of the Coleoptera of Staten Island, New York" by Charles W. Leng and Wm. T. Davis published in the "Proceedings of the Staten Island Institute of Arts and Sciences" in 1924. In the "Proceedings," Vol. V, October, 1929-May, 1930, there is a list of 75 additional species known to occur on the Island, and in the "Bulletin of the Brooklyn Entomological Society," Vol. 30, pp. 142-159, 1935, Mr. Kenneth W. Cooper records eight additional species.

Most of the species here recorded were identified by the writer, while others were determined by Messrs: C. A. Frost (F), H. B. Leach (L), R. E. Blackwelder (REB), J. G. Green (G), F. T. Scott (S), O. L. Cartwright (OLC), and L. L. Buchanan (B).

FAMILY CARABIDAE

226. *Elaphrus cicatricosus* Lec. Clove Valley, August 16, Ch. Ragot coll.
651. *Bembidion patrule* Dej. Great Kills, May 20, June 1, July 9, on the sandy bank of the stream.
820. *Tachyura laevipes* Csy. Great Kills, June 6, in the stream bed.
825. *Tachyura capax* Lec. Great Kills, July 9, with *T. laevipes*.

841. *Tachys cuneatus* Csy. Great Kills, May 20, as above.
 895. *Tachyta debicollis* Csy. Great Kills, May 5, 1940, under bark.
 1324. *Percosia schotti* Csy. An old specimen from Ch. Schaeffer's collection labeled, "S. I., 3/20/87."
 1516. *Platynus opaculus* Lec. Richmond Valley, April 23, under bark.
 1517. *Platynus tenuicollis* Lec. Great Kills, March 26, May 14; Huguenot, September 18.
 2017. *Selenophorus gagatinus* Dej. Great Kills, May 6.
 2089. *Anisodactylus melanopus* Hald. Great Kills, October 1.
 2163. *Triliarthrus atrimediis* Say. Great Kills, June 1, two specimens under a stone on the bank of the stream.

FAMILY HALIPLIDAE

2332. *Peltodytes pedunculatus* Blatch. Princes Bay, September 9, among *shermani* and *lengi*.

FAMILY DYTISCIDAE

2548. *Agabus semivittatus* Lec. Great Kills, May 14 to July 2. (L) Very common in the stream. The following year, (1940) early in the spring.
 2601. *Ilybius oblitus* Shp. Great Kills, October, 1938. (L) Huguenot, September 18. (L) Common.

FAMILY GYRINIDAE

19253. *Gyrinus lecontei* Fall. Great Kills, June 24, females.

FAMILY HYDROPHILIDAE

2776. *Berosus pantherinus* Lec. Great Kills, September 27, 1938; April and May, 1939.
 2806. *Tropisternus mixtus* Lec. Great Kills, same date. Rare among *glaber* and *lateralis*.
 2814. *Anacaena infuscata* Mots. Great Kills, October 1, 1938, one specimen.
 2859. *Chaectartria atra* Lec. Great Kills, same date.

FAMILY SILPHIDAE

3015. *Cyrtusa picipennis* Lec. Great Kills, May 5, two specimens in fungi.

FAMILY STAPHILINIDAE

3387. *Omalium rivulare* Payk. Great Kills, May 20, October 11, rare. (REB)
3582. *Oxytelus rugosus* Fab. Great Kills, same date, 1 specimen. (REB)
3625. *Bledius fumatus* Lec. Great Kills, May 14.
3712. *Stenus colon* Say. Great Kills, June 1. (REB)
3911. *Gastrolobium strenuum* Csy. Great Kills, May 20, June 10.
3931. *Hesperobium parviceps* Csy. Great Kills, July 16. (REB)
4094. *Litocharis ochracea* Grav. Great Kills, May 20. (F)
4243. *Stilicus angularis* Lec. Great Kills, October 11. (REB)
4302. *Gyrohypnus emmesus* Grav. Great Kills, March 26, May 14, (REB); Richmond Valley, April 23, (REB).
Great Kills, May, 1940, under bark.
4361. *Neobisnius sobrinus* Er. Great Kills, May 14, June 10. (F)
4366. *Neobisnius jocosus* Horn. Great Kills, May 14, June 1. (REB)
4373. *Actobius nanus* Horn. Great Kills, June 1. (F)
4452. *Philonthus cephalotes* Grav. Great Kills, March 26. (F)
4483. *Philonthus validus* Csy. Great Kills, May 20. (F)
19349. *Philonthus tetragonocephalus* Notm. Huguenot, April 30. (F)
4742. *Mycetoporus americanus* Er. Great Kills, May 20. (REB)
4752. *Habrocerus schwarzi* Horn. S. I. 1916. In the collection of the American Museum of Natural History.

FAMILY HISTERIDAE

6724. *Isomalus bistriatus* Er. Great Kills, June 1, under bark of elm tree. Not rare.
6772. *Bacanius punctiformis* Lec. Great Kills, May 5, as above. (F)

FAMILY CANTHARIDAE

7057. *Podabrus frater* Lec. Great Kills, July 9. (G)
- Cantharis oriflavus* Lec. Great Kills, June 1, 6. (G)
7127. *Cantharis marginellus* Lec. Great Kills, June 2, 12. (K)

Fender, det.) Common. The following year early in July, rare.

Cantharis attenuatus Green. Great Kills, June 1, July 6.
(G)

FAMILY MELYRIDAE

7238. *Malachius aeneus* L. Grymes Hill, July 15, Ch. Ragot coll.

FAMILY CLERIDAE

7688. *Isochydnocera curtipennis* Newm. Great Kills, June 10, July 9, common.

FAMILY MORDELLIDAE

7818. *Mordella lunuiata* Hellmuth. Great Kills, July 6.

7867. *Mordellistena amica* Lec. Great Kills, with *lunuiata*.

7913. *Mordellistena fuscata* Melsh. Great Kills, July 2, 16.

FAMILY MELOIDAE

8024a. *Epicauta cinerea* var. *marginata* Fab. July 9, one specimen, sweeping.

FAMILY ELATERIDAE

8959. *Elater manipularis* Cand. Great Kills, February 25, April 1, under bark of elm, oak and willow. Common.

9050. *Melanotus tenax* Say. Great Kills, July 6. (F)

FAMILY MELASIDAE

9125. *Melasis pecticornis* Melsh. Grymes Hill, May 27, Ch. Ragot coll. (F)

FAMILY BUPRESTIDAE

9399. *Agrilaxia flavimana* Gory. Great Kills, July 1, a mating pair on flowers of *Taraxacum*.

9514. *Agrilus lateralis* Say. Great Kills, June 10.

9542. *Agrilus politus* Say. Great Kills, June 17, a single female.
(F)

FAMILY HELODIDAE

9692. *Cyphon ruficollis* Say. Great Kills, June 10.

FAMILY DERMESTIDAE

9736. *Dermestes cadaverinus* Fab. Great Kills, April 26, in a dead rabbit. J. Kremer and Malkin coll.

FAMILY BYRRHIDAE

9247. *Nosodendron unicolor* Say. Great Kills, April 26, under bark of oak. J. Krenner coll.

FAMILY OSTOMIDAE

9466. *Airora cylindrica* Serv. Huguenot, July 16, 1 specimen under bark of oak.

FAMILY NITIDULIDAE

10169. *Melidonota stragosa* Gyll. Great Kills, July 16, sweeping (C. T. Parsons det.)

FAMILY EROTYLIDAE

10323. *Tritoma unicolor* Say. Richmond, June 6, Ch. Ragot coll.

FAMILY COLYDIDAE

10602. *Cerylon clypeale* Csy. Great Kills, April 1. (F)

FAMILY LATHRIDIDAE

10791. *Melanophthalma distinguenda* Conn. Great Kill, March 26, May 20, often found hibernating under bark of willow tree.

FAMILY COCCINELLIDAE

11010. *Scymnus semiruber* Horn. Great Kills, June 17, (S) sweeping, not rare. The following year in July.
 11143. *Delphastus fusillus* Lec. Great Kills, May 20.
 11178. *Neoharmonia venusta* Melsh. Great Kills, March 26, April 1, hibernating under bark of willow. Bay Terrace, February (1940); Great Kills, May.
 11231. *Epilachna corrupta* Muls. Grymes Hill, June 14, Ch. Ragot coll.

FAMILY CISIDAE

12979. *Cis creberrima* Moll. Great Kill, March 26, in Polyporus. (F)

FAMILY SCARABAEIDAE

13201. *Aphodius temerolli* Say. Willowbrook, May 12, Ch. Ragot coll. (OLC)
 13216. *Ataenius abditus* Hald. Great Kill, May 14, June 10, common on the sandy banks of the stream.

13652. *Dichelonyx diluta* Fall. Grymes Hill, June 14, Ch. Ragot coll. (OLC)

FAMILY CHRYSOMELIDAE

15256. *Lema sexpunctata* Oliv. Great Kills, October 10, 1938, one specimen on Solidago.
 15495a. *Cryptocephalus venustus* var. *cinctipennis* Rand. Great Kills, July 9.
 15674. *Calligrapha philadelphica* L. Great Kills, July 2, 1 specimen.
 15865. *Oedionychis gibbitarsa* Say. Willowbrook, September 15, Ch. Ragot coll.
 15923. *Haltica carinata* Germ. March 26, hibernating in a great mass under bark of willow. (Gertner and F. det.)
 16152a. *Chirida guttata* var. *pennsylvanica* Sp. Great Kills, June 10, 17.

FAMILY CURCULIONIDAE

16397. *Apion reclusum* Fall. Great Kills, October 1. (B)
 16429. *Apion turbulentum* Sm. Great Kills, May 20, June 10, July 16, one of the most common species.
 21450. *Calomycterus setarius* Roelf. Great Kills, July 6, 1940.
 16973. *Smicronyx tychioides* Lec. Great Kills, June 10, rare.
 16978. *Smicronyx apionides* Csy. Great Kills, May 20, sweeping. (B)
 17074. *Tychius picirostris* Fab. Great Kills, June 17, very common.
 17489. *Baris confinis* Lec. Great Kills, May 20. (B)
 17509. *Plesiobaris disjuncta* Csy. Great Kills, May 20. (B)
 17284. *Anthonomus decipiens* Lec. Great Kills, July 6. (F)
 21518. *Anthonomus nubiloides* Fall. Great Kills, June 6. (F)
 17754. *Pelenosomus cristatus* Dietz. Great Kills, June 10.
 17757. *Acallodes ventricosus* Lec. Great Kills, June 6.
 17901. *Rhyssomatus aequalis* Horn. Great Kills, July 6, 1940, on milk-weed.
 17973. *Cryptorhynchus fuscatus* Lec. March 26, under bark of willow. (B)
 18025. *Cossonus impressus* Boh. Great Kills, April 8, a dead specimen in oak.
 18123. *Sphaenophorus minimus* Hart. Willowbrook, September 15, Ch. Ragot coll. (A. F. Satterthweit det.)

Natural History Records from the Meetings of the Staten Island Nature Club¹

WILLIAM T. DAVIS

The meeting of September 28, 1940, was held in the Public Museum.

Mr. Wm. T. Davis showed several boxes of 17-year Cicadas, Brood 14, mostly collected on Long Island, but also from Ohio and Pennsylvania. The cicadas appeared in many places from Cape Cod south westward; in North Carolina, Ohio, Indiana and Tennessee, but no adults were found on Staten Island. Historically, Brood 14 is one of the most celebrated of the broods, because it was recorded by the Plymouth Colony in 1634, and because of their vast numbers, the colonists likened them to the locusts of the Bible, which, however, were grasshoppers and not cicadas. This year Brood 14 made its 18th appearance since 1634, and was received with much interest, and a better understanding than in the days of the early settlers 306 years ago.

On June 19, 1940, Mr. Davis had visited Long Island with Mr. and Mrs. Roswell S. Coles, and found many colonies of 17-year cicadas from Farmingdale eastward through Pine Lawn, Wyandanch, etc., also in the Half-Way Hollow Hills, on the Holmes farm on Burr Lane. A box containing many cicadas of the small form *Magicicada cassini* as well as the larger *septendecim*, collected on the Holmes farm in 1923, was also shown. *Cassini*, which sings a very different song from *septendecim*, was again present in 1940. Mr. Edwin Way Teale also visited the Holmes farm on June 19, and secured photographs, some of which were exhibited. Mr. Teale's illustrated article on the cicadas appeared in *Popular Science* for October, 1940.

On June 22 and 23, Mr. Davis again visited Long Island, this time with Mr. and Mrs. Howard H. Cieaves and their son. The night of June 22 and 23 was spent at Rocky Point, East Marion, and on the 23d they called on Roy Latham at Orient, and saw some of his well ordered collections. On the way home, along the north shore of the

¹ These records have been compiled largely from the minutes of the club, John Koestner, secretary.

Island, several other colonies of 17-year Cicadas were examined, particularly the one at Belle Terre near Port Jefferson.

Mr. Davis also showed a box containing seven Monarch butterflies (six males and one female), and also the large, introduced wasp, *Vespa crabro*. The insects were brought to the Museum by Mrs. Karl Pauli of 322 Fingerboard road. The butterflies had been found dead about a Butterfly bush in her garden. She described how the wasps did not molest the butterflies as long as they remained on the flowers, but when they flew, they were attacked in mid-air, captured and eaten. She also observed the damage to her lilac bushes caused by the wasps gnawing the living branches to secure wood pulp wherewith to build or repair their nest. The frontispiece in that still useful book, *Insects at Home*, by the Rev. J. G. Wood, published in 1873, shows a *Vespa crabro* in the act of tearing the wings from a Red Admiral butterfly captured in mid-air.

Mr. W. Lynn McCracken, interested in preserving the natural beauties of our Island, stated that the efforts of the W. P. A. workers, for want of proper supervision, sometimes resulted in more harm than good. He suggested the planting of the California Redwood on the Island; he thought that the trees would survive.

Capt. Thomas I. Miller had been interested in the House Wrens in his garden, and observed that the male repeated his song about every three seconds.

Mr. Carlton Beil told of his vacation trip to Cape Cod, where he was able to make a satisfactory picture of a Star-fish in the clear water of a tidal pool. He also showed other photographs from the White Mountains, and some plant fossils that he had found in a dump heap at Wilkes-Barre, Pa.

Mr. George B. Wilmott showed a very tame Chipmunk taken on Staten Island that he and Mrs. Wilmott had brought up from infancy. It was permitted at large on the table; would "lie down to sleep," or enter a bowl with a rather small opening in quest of nuts, then after turning around inside the bowl would pop its head through the opening and gaze upon the admiring audience. Altogether it was a most interesting little animal. Mrs. Wilmott showed a spiny box-fish and a small king-crab.

Mrs. Ruth N. Nauss read a report from Mr. Robert O'Connor on three species of Mycetoza to be added to the "Preliminary List of the Mycetoza of Staten Island," printed in vol. 8 of the *Proceed-*

ings of the Staten Island Institute. They were collected in the fall of 1938 by Mr. Joseph F. Burke, and recently identified by Mr. Robert Hagelstein of the New York Botanical Garden. The species are *Trichia affinis* deBary, *Trichia scabra* Rost., and *Stemonitis hyperopta* Meylan.

Dr. Ralph W. Nauss talked on his recent trip to Cuba, illustrated by photographs in natural colors. He also gave an interesting account of the annual meeting of the Cuban Medical Association at Camaguay, east central Cuba.

The meeting of October 26, 1940, was held in the Public Museum.

Officers for the coming year were elected as follows: President, Mr. I. C. G. Cooper; Vice-President, Mrs. K. O. Nesslinger; Secretary, Mr. John Koestner. Miss Edna Peterson, former Vice-President, desired not to be re-elected.

Mr. Wm. T. Davis stated that on the occasion of the October 12, 1940, walk of the Bird Club, Dr. Chapin and Dr. Strauss found a dead blacksnake on Ramona Boulevard near Bloomingdale Road, that measured 5 feet 10 inches in length. The snake probably inhabited the woodland for a number of years before the boulevard was laid out, which brought the automobiles and its death. This is one of the largest blacksnakes recorded from the Island. Those mentioned in *Notes on Staten Island Blacksnakes*, Proceedings, vol. 1, 1920, pp. 59-64, and vol. 7, October, 1932, p. 31, were under five feet, except for a cast skin of 5 feet 8 inches. Some of these specimens have been preserved, and were shown. In *Copeia* for July, 1918, p. 76, a blacksnake measuring 6 ft. 5 in., collected at Garrison-on-Hudson, N. Y., by Mr. Owen Cattell is recorded. A blacksnake of this species *Coluber constrictor*, 6 feet in length may be considered a large specimen. Even in more rural localities than Staten Island, the blacksnake is becoming rare, and Prof. H. Garman writing in 1892 in his Synopsis of the Reptiles and Amphibians of Illinois says: "Formerly a common species, but it has been exterminated in the better agricultural regions, and is not common at present except in localities where there are extended tracts of uncultivated land to afford it retreats." In his list of the Snakes of Monroe and Orleans County, N. Y., *Copeia*, March, 1919, Prof. A. H. Wright says of the blacksnake: "This species is becoming rare where it was once common."

Miss L. E. Biglow gave a list of over 20 wild plants or way-side weeds growing on our Island that might serve as food. Some are gathered to a limited extent, such as the dandelion, but most of them are neglected. Two weeds of the garden and field are pigweed and purslane, both of which, when properly cooked or treated, make delicious greens. "Naturalists, whose job it is to know weeds, say that we waste the fruits of Nature's garden because we don't know what wild plants are good to eat." In this connection the book "Edible Wild Plants," by Oliver P. Medsger is recommended.

Mr. Lynn McCracken read a paper "A Peek Into the Future," visualizing what might be accomplished by the Institute if we had a larger building.

Mr. Carlton Beil exhibited a large *Squilla empusa* very beautifully marked and quite perfect. It was dead when found early in October on Crooke's Point, during one of the walks conducted for young people, by the Institute. The beach had been swept very clean by an off shore wind during the time of the last high tide, so there was very little rubbish and drift wood. Many cast or empty shells of the horseshoe or king-crab were on the up-beach, and inside one of these the stomach pouch was found. It was filled with a solidly packed mass of material which on examination proved to be roots and fibers from the salt marsh peat and small shells of the soft-clam, which apparently had found their way into the stomach subsequent to the shedding.

The meeting of November 23, 1940, was held in the Public Museum.

Mr. Wm. T. Davis stated that the day had been quite warm, and in a walk near Ward's Hill he had found along the sidewalk a number of insects. There was a Coccinellid beetle, a honey bee, the wasps *Polistes pallipes*, and *Vespula maculifrons* both male and female, according to Mr. A. T. Gaul.

As to the presence of some mammals still to be found on the Island, he read a card from Mr. C. A. Loffredo relative to an Opossum found in November by Raymond Kerr near where the Amboy Road is joined by Egan Avenue at Annadale. Also he showed Skunk droppings found in August, 1937, and again in August, 1938, about the burrows of the Cicada Killers (*Sphecius speciosus*) at Amber Street near Oakwood. In addition to wild cherries the

Skunk had eaten the Cicadas abandoned by the hornets, as well as other insects. Mr. Peter Crowe had also examined the droppings.

Mr. Albro T. Gaul mentioned some experiments in producing artificial hibernation in *Polistiphaga arvalis*, an ichneumon parasite of *Polistes* wasps. Adult wasps were placed in a refrigerator ice tray for alternate 12 hour periods. They became motionless when cooled. They survived for several weeks of continuous treatment.

Mr. L. A. Ellison showed some fine quartz crystals on Limonite found at the old iron mines near New Dorp.

Miss Bessie Blauvelt reported an incident of a house sparrow feeding a young starling.

Mr. Howard Cleaves reported on a recent visit that he, Mrs. Cleaves, Mr. Beil and Mr. Coles had made to Hawk Mountain, Pa. He stated that at first the inhabitants of the region were opposed to the reservation, but that gradually their opinion has changed, and that now they realize its great benefit to the community. Mrs. Cleaves painted the background for the Hawk Mountain group in the Museum of the Staten Island Institute of Arts and Sciences.

Mrs. K. O. Nesslinger reported late blooming violets and Forsythia bushes, and showed some examples of the work of carpenter ants.

Mr. Roswell S. Coles showed a Myxomycete, *Diderma floriformis*, found near Betty Holmes' Brook on November 17, 1940. This species has not heretofore been reported from Staten Island. The specimen had been identified by Mr. Burke and mounted by Mr. Koestner.

Mr. I. C. G. Cooper reported on the St. George to Tottenville hike of November 11, when 11 persons, mostly members of the Nature Club, started from the Museum at 9:30 in the morning, stopped at Richmond for lunch, were joined by two more hikers, and then continued to Tottenville, arriving about 5 o'clock. Those who walked the entire distance, covering more than 20 miles mostly along wood-paths and along country roads were, 10-year old Ralph Nesslinger of Fingerboard Road, his parents, Mr. and Mrs. Karl Nesslinger; Howard H. Cleaves of Pleasant Plains; Dr. Ralph W. Nauss of Daniel Low Terrace, professor of parasitology at Cornell Medical School; E. A. Rundlett, plant pathologist for the Park Department on Staten Island; I. C. G. Cooper, president of the Staten Island Nature Club; L. A. Ellison of the Boy Scouts; Dr.

Frank A. Strauss, vice-president of the Staten Island Institute of Arts and Sciences; Mrs. Robert E. Carew, past president of the Woman's Auxiliary of the Institute, and Joseph F. Burke, honorary curator of minerals of the Institute. They were joined at Richmond by 11-year-old Roland Nesslinger and Dr. Wm. H. Wiegmann.

The meeting of December 28, 1940, was held in the Public Museum.

Mr. I. C. G. Cooper read a communication from the Audubon Society asking the support of our Society toward stopping the traffic in the feathers of wild birds used for millinery purposes. The secretary was instructed to send the resolution passed and signed by the members present, approving the movement, to the Audubon Society. Mr. Cooper also read a communication from Mrs. Stryker of the Staten Island Zoological Society inviting the Nature Club to again participate in an exhibition of local Biological objects. It was decided to take part in the exhibition which is to occur in the spring.

Mr. Carlton Beil reported on the Bird Census taken on the Island, December 22, for the Audubon Society, by six observers. Thirty-nine species of birds were seen, while last year forty-seven species were recorded on December 23 by nine observers.

Mr. Wm. T. Davis exhibited eight eggs laid by a tame crow belonging to Mr. Arthur Martens, 37 Lawrence Avenue, West New Brighton. The crow was born near Slide Mt. Catskills, N. Y., in 1925, and in 1939, when 14 years old she commenced to lay. In 1940, between the middle of April and the middle of June, she laid 13 eggs. She receives a great variety of food, and was eating a shrimp when Mr. Davis called. She also has fruit juices, eggs and egg shells, musk melon, many cereal foods, etc., enough to cause any healthy crow to lay numerous eggs. She laughs and can say a number of words; also understands many more. When Mr. Martens says: "Kiss me," she holds down her head so that it may be kissed on its top, which evidently meets with her approval as expressed in dulcet tones. On August 7, 1940, Mr. Martens, writing from Oliveria, stated that "Ravenia" was having feasts of grasshoppers and was much occupied in answering the calls from the crows in the valley, her one-time home, to which she is taken every summer.

Mr. Davis referred to the account of the Fort Wadsworth tame crow, mentioned at the March 28, 1936, meeting of the Nature Club, and also to the tame crow owned by Mrs. C. Hulbert, 73 Vista Avenue near Holly St., Staten Island, seen and photographed July 13, 1940, on the occasion of the walk of the Bird Club. This crow talks and has a more melodious voice than is usual in a crow.

More than 60 years ago, and before the organization of the Natural Science Association of Staten Island, Dr. Arthur Hollick, then residing on what is now Winter Avenue, Fort Hill, had two tame crows known as Grip and Gobble. Grip could talk, and Mr. Davis recalled the crow saying to him: "What do you want," "Go to work," etc. These crows in winter were allowed to sleep in the cellar, and it was discovered that the mysterious starting up of the fire was caused by the crows sliding the draft in the lower door of the furnace so that they might see the bright light within.

At the meeting of January 27, 1940, records of two large hen's eggs were recorded, each egg being $6\frac{1}{2}$ inches in circumference. Mr. Davis showed an even more remarkable egg, also $6\frac{1}{2}$ inches in circumference; white in color, and with an abnormally thick shell of an uneven surface. At one end of the egg there were four protuberances or deposits of lime, each about the size of a pea, and at the other end of the egg, there were three such protuberances. The egg was found in a crate of White Leghorn chickens in August, 1940, and presented to the Institute by Mr. Patrick Vaglio, 1420 Castleton Avenue, Port Richmond.

On December 11, 1940, a dandelion was found in flower near the docks at Tompkinsville. In 1939 a dandelion flower was found at the same locality on December 18th, as recorded at the December 23 meeting of the Nature Club.

This being the Christmas-time meeting of the Nature Club, the illustrated Uncle Toby books were on exhibition, as has been the custom for a number of years. The kindly and versatile "Uncle Tobey," as Mr. Adolph W. Callisen was pleased to be called, died on August 31, 1940, in his 84th year. For a number of years he attended the meetings of the Club, and presented many worthwhile papers and notes on local natural history, and on our history, and literature. We greatly miss his contributions and his kindly influence.

As part of the refreshments for the occasion, a Jumbo Lemon,

weighing between three and four pounds, grown by Mr. Paul C. Avery at Mission, Texas, near the Rio Grande, was sliced, and enough lemonade made for those present. The fruit was a remarkable example of the skill of the horticulturalist and appeared to be a cross between a lemon and a grape-fruit with a most pleasant flavor. Also a large cake made for the occasion by Miss Bessie Blauvelt, was appreciated.

The meeting of January 25, 1941, was held in the Public Museum.

The President, Mr. I. C. G. Cooper, expressed the deep feeling of regret in the passing of Mr. Charles W. Leng, Director of the Institute since May 31, 1919, who died yesterday in the 82nd year of his age and who, as long as he was able to do so, regularly attended the meetings of the Nature Club. The Secretary was directed to write to Mrs. Leng expressing the sympathy of the members of the Club.

Mr. Wm. T. Davis paid tribute to the memory of his friend, Mr. Charles W. Leng, with whom he had been associated for over 61 years. An account of Mr. Leng's useful life is to appear in the *Museum Bulletin*, and in the *Proceedings* of the Institute.

Mr. Davis showed a number of fasciated stems of the smooth sumach and ailanthus, recently collected near the docks at Tompkinsville. Now that the summer leaves are gone it is plain that the many large heads of the smooth sumach bearing a multitude of small curled leaves instead of berries, may have resulted from a fire, that came shortly after the stems started to grow vigorously in the Spring of 1940. After the fire there was an onrush of rapid growth, causing in many instances a broad fasciation of the sumach stems, also occasionally of the leaves as well. Sometimes insects cause injury to growing heads of the smooth sumach, but the resulting masses of curled leaves are not nearly as large. In the *Proceedings* of the Natural Science Association of Staten Island for December 11, 1886, there is a paper on fasciation in *Ailanthus* and *Rhus glabra*, the smooth sumach, caused by fires that took place after growth had commenced in the Spring.

Mr. Davis stated that some notice had been taken in the 1938-1939 *Proceedings of the Linnaean Society of New York* of the Northern Varied Thrush recorded in our *Proceedings* and *Museum Bulletin*, and that *Entomological News* for December, 1940, on page

294, referred to the entomological items in the *Natural History* records from the meetings of the Staten Island Nature Club.

Mr. Albro T. Gaul exhibited a number of *Polistes* wasps and their parasites. *Polistiphaga arvalis* was shown in all developmental stages, and its parasite *Dibrachys cavus*. On *Dibrachys* was another parasitic wasp *Pteromalus puparum*, thus demonstrating a new example of tertiary insect parasitism.

Mr. Carlton Beil reported seeing a Chewink at the Bird Sanctuary, also five Cardinals. It is quite unusual for a Chewink to winter on Staten Island.

Mr. Cooper read a communication from the Newark Museum Nature Club expressing their wish to visit Staten Island on February 22, the occasion of the next meeting of the Staten Island Nature Club. He stated that he would write to the Club extending a cordial welcome to our neighbors.

Another of the giant lemons received from Mr. Paul C. Avery of Mission, Texas, was presented, and as in December, enough lemonade for those present was made from a single lemon.

The meeting of February 22, 1941, was held in the Public Museum.

Mr. Cooper greeted the visiting members of the Newark Museum Nature Club, and announced that Mr. Anderson of the club would later show some colored slides of natural objects.

Mr. Wm. T. Davis read a letter from Mr. F. Rapp, Jr., of Rutgers University, New Jersey, who recently visited our Staten Island Museum. Mr. Rapp wrote under date of January 29, 1941, as follows: "Last Sunday I spent the day looking for birds and thought that you might be interested in what we saw. Mr. William Rusling and I left New Brunswick at 5 A. M. going first to Oldbridge, where we tried to find a Great Horned Owl that Rusling had located there about two weeks ago, but did not find our owl. We then went to the Pigeon Swamp, which is east of Deans, and there we finally located a Great Horned Owl. Then we proceeded to Point Pleasant by way of Hightstown and Lakewood, stopping at the Metedconk River at Laurelton, where we saw a pair of Mute Swans. Although we saw a number of swans during the day, this was the only pair that we considered wild. At Old Sam's Road in Point Pleasant we saw a pair of Red-throated Loons, one of which was

sitting on the bank and to see that bird make for water was some sight. It ran with its breast in the sand and left a track six inches wide. In the Manasquan Inlet there was a Double-crested Cormorant and a Common Loon. From Point Pleasant we followed the shore until we came to Sandy Hook and then along the shore of Sandy Hook Bay to Raritan Bay and along that to Morgan, and then called it a day.

"The most outstanding birds that we saw in the ocean were the King Eiders, of which we saw a total of 13, we saw a few Scaup, but no Golden-eyes or Old Squaws until we reached Sandy Hook Bay. All of the Old Squaws were off Atlantic Highlands, but the Scaup and Golden-eyes seemed to be fairly well distributed over both bays. I am enclosing a list of what we saw and the total number of each species seen.

"Common Loon 1, Red-throated Loon 2, Double-crested Cormorant 1, Mute Swan 2, Mallard 2, Black Duck 925, Red-legged Black Duck 2, Baldpate 136, Greater Scaup 7,618, Golden-eye 170, Buffle-head 3, Old Squaw 31, King Eider 13, Ruddy Duck 1, American Merganser 11, Red-breasted Merganser 67, American Coot 1, Killdeer 4, Great Black-back Gull 19, Herring Gull 1,275, Ring-bill Gull 25, Bonaparte's Gull 164, Eastern Mourning Dove 1, Great Horned Owl 1, Eastern Belted Kingfisher 1, Eastern Crow 5, Carolina Chickadee 2, Robin 2, Myrtle Warbler 6, Cardinal 1, Swamp Sparrow 1, Song Sparrow 2."

The Mute Swan, which breeds in northern Europe and Asia, has been introduced and naturalized in the British Isles, and in the lower Hudson valley and on Long Island, New York. Staten Island records are desirable.

Mr. George B. Wilmott exhibited some Salamander larvae which he had frozen and thawed four times with no apparent damage to the salamanders.

Mr. Howard Cleaves said that he believed the Cooper's Hawks are to be found as both winter and summer residents of our Island. He has had them under observation for the past eight years. (See Natural History Records of the Nature Club, June 24, 1933.)

Dr. James P. Chapin exhibited a neatly prepared study-skin of a male New York Weasel, *Mustela noveboracensis*. He had found the weasel dead on the road at Latourette Park, July 27, 1940. It had apparently been killed by an automobile.

Mr. Edward B. Lang, secretary of the Newark Museum Nature Club gave an account of the activities of the Club, its numerous field trips; its tree studies, etc. He also remarked on the spring flight of hawks at the Watchung Mountains.

Mr. Louis W. Anderson then showed many pleasing Kodachrome pictures of natural objects, mostly flowering plants in their natural surroundings, and Mr. I. C. G. Cooper showed several lantern slides of pictures designed as an aid to the identification of our native trees in winter.

The meeting of March 22, 1941, was held in the Public Museum.

Mr. I. C. G. Cooper mentioned the charts and papers given him by Miss Emilie O. Long, and distributed by the New York Nature League. They had been turned over to the Junior Nature Club of the Museum.

Mr. Wm. T. Davis exhibited a Coltsfoot flower from the filled-in area near the docks at Tompkinsville, and stated that he had found the first one on the 6th of March. Then came the fall of snow of about a foot, which was, by March 15th, sufficiently melted to expose the Coltsfoot flowers in still more vigorous condition. All signs would appear to indicate that the present spring to date is not forward nor is it exceptionally backward.

Some of the fruit-producing branches were removed from the English Ivy growing over the door-way of St. Andrew's Church at Richmond last December, when the roof was being repaired. This offered an opportunity to secure the desirable specimens herewith exhibited. The Ivy on the church well illustrates the difference in leaf-form between the lobed leaves of the lower portion of the climbing vine and the unlobed form of leaf produced when the plant commences to flower and fruit. The Brooklyn Botanic Garden has lately issued an illustrated leaflet on its Ivy exhibit at the International Flower Show, held in March, 1941. Five species of *Hedera*, native of Europe, North Africa and Asia, are mentioned, including *Hedera helix*, the English Ivy, and its numerous varieties. It is said that the aborescent state is seldom produced out-of-doors in the vicinity of New York, so the ivy on St. Andrew's church is of horticultural value and interest. To quote from the leaflet: "Practically every kind of *Hedera* starts out in life as a plant which climbs by means of adventitious rootlets. When a certain stage is reached,

or when it has attained the top of its support, its character changes completely and the arborescent form is produced, characterized by rigid branches and bushy appearance in contrast to the flexible shoots of the climbing type. The leaves lose their normal lobed character, flowers and fruit are produced and the uninitiated would think that a shoot from the aborescent stage had no connection whatever with one from the vining stage." The flowers of the Ivy are small, greenish and inconspicuous, but are quite attractive to insects.

Mr. Davis further stated that on June 13, 1940, through the kindness of Mr. William M. Braybrooks, superintendent, he had visited a portion of the extensive reservation of the Gulf Oil Corporation, which now includes the hummocks once known as Big and Little hummocks. On these hummocks grew the Dwarf Clematis or Curly-heads, the northern limit of which is Staten Island, the Lupine, and the Scrub or Dwarf Chestnut Oak (*Quercus prinoides*) that grows in but two or three places on our Island. The Clematis has disappeared, also the Lupines, but the Scrub Oak still persists on a small undisturbed portion of what was once the Big Hummock. The plants that have taken the place of the one-time vegetation in many places, especially along the dikes, are the Japanese knotweed (*Pleuropterus succarinii*), and in the low ground the tall Reed-grass (*Phragmites phragmites*). Many other plants are present, among them the slender Blue Flag (*Iris prismatica*). In all, the place is quite a Nature Reservation and profits by the absence of forest fires. It is a great resort of the Red-winged Blackbirds. Some birds had brought several of the large Fiddler Crabs (*Gelastimus minax*) from the nearby Old Place Creek, to devour at their leisure on top of the dikes. Mr. Davis had feared that polluted water had exterminated this large Fiddler, and was pleased to find that it still existed in its old haunts.

Dr. Frank A. Strauss showed a fine example of the beautiful sugar maple beetle (*Plagionotus speciosus*) from Connecticut. It is sometimes injurious to the maples, but on Staten Island the sugar maple is uncommon and the beetle has not been reported.

Prof. David Varon spoke on the influence of natural forms in architecture. He illustrated his remarks by many interesting off-hand crayon drawings.

The meeting of April 26, 1941, was held in the Public Museum.

Mr. Cooper announced that the Natural Science Exhibition to be sponsored by the Staten Island Zoological Society and in which the Nature Club is to participate, is to be held from May 17 to 21.

Mr. Wm. T. Davis called attention to the fact that the Staten Island Nature Club held its first meeting on April 28, 1919, and was therefore 22 years old. He read a letter from Mr. Ned J. Burns, one of those who started the Club. At that time Mr. Burns was connected with our Museum, and later constructed the Staten Island Indian Group, the group showing the destruction by the Indians in 1655 of the settlement at the Watering Place, and also the one illustrating the meeting at the Conference House on September 11, 1776. Mr. Burns is now Chief of the Museum Division of the National Park Service.

At one time the Blood-root was not uncommon on the Island and Mr. Davis showed a flower gathered on April 17 in the garden of our late Director, Mr. Charles W. Leng, who had grown the plant for many years. The deplorable number of brush fires, which on April 14, reached a total of over 60 in one day, readily explains the extermination of many species of wild plants on the Island, and is a sad reflection upon the lack of care of our population.

The present Spring, as far as weather conditions are concerned, has been of much interest. The "New Jersey Crop and Livestock Report" issued April 1, 1941, stated that: "Cold, wet weather had delayed spring farm operations considerably," and that: "The season is at least two weeks late." Then came the very hot days of the middle of April which caused many of our flowers and trees to blossom ahead of time. Apple trees for instance were in blossom at the end of April. April is said to have been the "hottest, sunniest and clearest on record," according to the *New York Times* of May 2. The Cabbage butterfly and the Morning Cloak butterfly were not seen until April 8 and 9. On the latter date a garter snake was found dead on the road near the Billopp House, killed by an automobile, and three water snakes were seen in the *Hibiscus* swamp near the house and the shore.

Mr. Davis showed 29 Cicada (*Tibicen*) pupae skins found on August 22 and September 18, 1940, on Poplars and White Maples planted as shade trees along Guyon Avenue between the railroad and Mill Lane, Oakwood. The skins were nearly all on the pop-

lars on the westerly side of the avenue. Also the skins were mainly on the westerly and southwesterly side of the tree trunks, where the pupae would receive the last rays of the setting sun as they crawled up the trees in the late afternoon, which is their usual time of emergence.

Mr. George B. Wilmott showed some larvae of the Marbled Salamander, *Amblystoma opacum*, which were caught on Long Island with a small net April 16, and said they probably came from eggs laid in the previous Fall. He also explained the differences between the young exhibited and those of the Tiger Salamander. Mr. Wilmott also showed a living Southern Musk Turtle, *Sternotherus minor*, from Fort White, Columbia County, Florida, and told of a movement to educate the public as to the usefulness of snakes.

Mr. I. C. G. Cooper gave an account of a recent collecting trip for Staten Island Algae with Dr. Harold C. Bold and some students from Columbia University, when about 50 fresh and salt-water species were found.

The meeting of Friday, May 23, 1941 was held in the Public Museum.

Mr. I. C. G. Cooper stated that as the personnel of the Staten Island Nature Club and that of the Bird Club was about the same, it had been suggested that the two clubs be combined. It was moved and carried that the officers of both clubs make a combined report on the matter in the Fall.

Mr. Cooper also reported on the Natural Science Exhibit recently held in the auditorium of the Staten Island Zoological Society, and in which the Nature Club participated. The club had four displays of woodland scenes which included living plants, some stuffed birds and models of salamanders, etc. The exhibition was well attended and viewed by about 1,000 Islanders.

Mr. Wm. T. Davis stated that he had seen a Cynthia moth flying about on May 10, and a yellow Swallow-tail butterfly at 146 Stuyvesant Place, on May 18. This butterfly sometimes appears much earlier in May. On May 1, 1898, one was seen at Fort Lee, N. J.; in 1899 on May 6 at New Brighton, Staten Island; in 1902 on May 4 at Mosholu, N. Y., and in 1906 on May 12, on Staten Island.

At the March, 1941, meeting of the Nature Club, specimens of English Ivy in the aborescent or fruiting stage from the Church of

St. Andrew at Richmond, were shown. The ivy growing on some of the buildings of St. Johns Church, Clifton, is also old enough to bear fruit. Three photographs of English Ivy in the arborescent state growing on two sweet gum trees near the old J. D. Dix house, now known as 49 Coursen Place, Clifton, were shown. The photographs were taken December 2, 1932, but the ivy was again examined on May 19 of this year. The old J. D. Dix place is shown on Beer's Atlas of 1874 as of 6 acres, with the entrance on the northerly side of Vanderbilt Avenue.

Mr. Davis showed several 17-year Cicadas, and stated that they were representatives of the small Brood 15, examples of which were found on the Island in 1890, 1907 and 1924. A more detailed account is to be made later in the season when the data for this years appearance have been assembled.

The following extracts from a letter dated May 2, 1941, from Mr. Roy Latham, of Orient, Long Island, were read:

"The long dry spring has left many blackened wood-lands even out here where fires have gone through most every swamp, now that they are dried out, as well as woods. Farmers out here burn the waste lands, and all the salt meadows have to be burned over every spring by the mosquito commission.

"The hot days brought early members of several moth families to my light at unusually early dates. I had a *Calocampa nupera* at my light on March 25. Two *Scopelosoma indirecta* (*Moffatiana*) on April 10. A *Xylina pexata* on April 19, the first one I ever saw here. Two *Semiophora tenebrifera* and two *Hadena claudens* on April 24; these last two species are new to me here. There have been numbers of others less rare at my lights this spring, especially in the genus *Xylina*.

"At Bay View last Sunday the 27th April, I found a new colony of Black-crowned Night Herons, and collected two specimens of the small beetle *Glischrochilus* (*Ips*) *sanguinolentus*, my first of that species on this end of the Island.

"Last winter before the ground froze, we found a new Orient Focus Indian site at Jamesport, on a hilltop where we excavated in December and again this April. We found many cached objects including 45 soapstone vessels. These had been killed or broken up and have to be restored. In digging there this spring I dug out many Fowler's Toads, which were buried from two to five feet

deep in the sand. I also dug out 12 specimens of *Harpalus erraticus* beetles. These were from three inches to eighteen inches deep in sandy soil.

"It is an interesting spot near Jamesport and I saw several woodchucks, one of the largest I ever saw. I also saw one large opossum there, and several skunks. At Mattituck I found a specimen of the garden centipede, *Scutigera forceps*, the first I have seen on Long Island, although I suppose they must be rather common in the right places.

"Birds are coming slowly in spite of the warm days. I saw a Yellow Warbler on April 30, which equals my earliest date for that species in Orient. We had a Black-bellied Plover here from February 15 to early March, and a Bald Eagle spent the winter on Shelter Island. On the south side of the Island, Canada Geese have been common in March and April, and come to feed on the rye fields. One flock of about 1,000 birds came in regularly every afternoon, just before night, from the ocean, for two weeks. Many of them stay far out at sea during the day.

"Last Fall in October and early November, there was quite a flight of the butterfly *Euptoieta claudia* on the north shore at Southold. I saw three or four every time I went there and collected several."

Miss Bessie Blauvelt showed several tuberous roots of remarkable shapes, but unknown species, found near a garden, also flowers of the Cottonwood Poplar. Mr. Beil mentioned the very large tree of this species standing near the corner of the Amboy Road and Page Avenue. Mr. Beil also stated that he had lately seen an Orange-crowned Warbler near Flagg's Pond.

ANNUAL REPORTS

ANNUAL REPORTS—AFFILIATED SOCIETIES

Staten Island Art Association

GILMER PETROFF

On September 4, 1940 a special meeting of the directors of the Staten Island Art Association was held at the Museum at St. George. The principal purpose of this meeting was to prepare for the annual meeting and the election of officers. The following committees were appointed. Nominating Committee: Mrs. Muriel M. Cleaves, chairman; Fernando Fingado and Mrs. George S. Dare. Membership Committee: Mr. Arthur Beaumont, chairman; Miss Carolyn C. Mase, and Arthur E. Lorzani. The Jury of Selection for the Annual Exhibition: Mr. Arthur E. Lorzani, chairman; Miss Carolyn C. Mase, Miss Agnes C. Nash, Miss Constance Wingert and Mr. Gilmer Petroff. Entertainment Committee: Miss Charlotte Livingston and Miss Agnes C. Nash.

The opening of the Annual Fall Exhibition of the members of the Association was held at 8 P.M., Tuesday, October 22, 1940. The show proved most interesting and many fine examples of our members' work were exhibited.

The fall meeting of the Association was held at 8:30 P. M., Tuesday, October 29, 1940. After due nomination, the following officers were chosen: Gilmer Petroff, president; Richard Kroth, 1st vice-president; Mrs. Elinor Steinmeyer, 2nd vice-president; Alfred McNamara, secretary; Mrs. Elsa Knauth, treasurer; Prof. David Varon, publicity director.

There was a special meeting called in January. After some discussion it was decided to hold an artists' ball at the Staten Island Academy on Saturday, May 24, 1941. Also at this meeting there was a guest speaker, Mr. Charles Cagle. His talk, "El Greco and his Influence on the Modern School of Painting," was most interesting and was illustrated by many fine lantern slides. Mr. Cagle also brought some examples of his own work which were greatly admired by members.

The committees for the Artists' Ball were as follows: Gilmer Petroff, chairman. Refreshments: Mrs. Elinor B. Steinmeyer.

Decorations: Alfred McNamara, Fernando Fingado, Miss Eleanor Fichtmueller, Miss Hilda Bergval, and Gilmer Petroff. Publicity: Prof. David Varon, Miss Eleanor Fichtmueller, and Miss Agnes C. Nash.

It was decided to have a circus as the theme for the Ball. About 1,000 square feet of murals were painted giving the hall the appearance of the inside of a circus tent. There were the fat lady, the acrobat, horses, clowns, wild animals and a host of other interesting things.

About 150 people attended, a gratifying number for their first attempt. The success of the Circus Ball prompted the Association to plan for some like effort each year.

Belles Lettres Society

MRS. ELIZABETH CUMBERLAND

The year 1940-1941 began with the following members of the Society in office: Mrs. Joseph W. Latham, president; Mr. Henry B. White, vice-president; Mr. L. E. Daniels, corresponding secretary; Mrs. R. W. Cumberland, recording secretary; and Colonel John Earle, treasurer.

Varied aspects of American literature were discussed during the year including patriotic literature, the novel, poetry, the essay, historical writings, and the short story. At the January meeting, held in the museum, a program of original contributions was given in which Mr. Willard Grimes was represented by two poems, set to music by Mrs. Austin Rogers; Mr. John Carniol by musical compositions; Messrs. Charles Stoddard, Leon E. Daniels, Dr. E. C. McCulloch, and Mrs. Leonard Sutter by poems; Mr. Cornelius Kolff, Miss Mabel Abbott, and Mrs. R. W. Cumberland by short stories.

At the March meeting Professor Samuel E. Allen of Williams College was present and discussed "The Frontier Influence in American Literature."

Almost all the members of the Society assisted during the year in presenting selections which illustrated the wide variety of American literary achievement and all felt that the careful integration of the various programs of the year assisted materially in giving continuity to the work of the society.

The annual dinner, held at the Old Mill, Grasmere, proved as usual to be a most enjoyable event.

Members who entertained the Society at their homes were Mrs. Mark Kerr, Mrs. Walter Kuhn, Mrs. Hartley Smith, Mrs. Willard Grimes and Mrs. Leon Daniels. The first meeting of the year was held at the Winter Memorial Library of the Staten Island Academy. Another meeting had for its setting the Kirchoffer Conservatory, while two were held at the Museum of the Staten Island Institute of Arts and Sciences.

During the last three meetings of the year Mr. Henry B. White, vice-president, occupied the chair because of the illness of Mrs. Latham.

Staten Island Bird Club

CARLTON BEIL

The Staten Island Bird Club has continued to be active during the past year under the following officers: Mr. Howard H. Cleaves, president; Mr. Wm. T. Davis, 1st vice-president; Mrs. H. M. Trench, 2nd vice-president; Mrs. L. A. Dreyfus, 3rd vice-president; Dr. Frank A. Strauss, 4th vice-president; Mr. Carlton Beil, field secretary. Mr. Charles W. Leng served as secretary-treasurer until his death January 24, 1941.

Walks were held once a month and our record remains unbroken for the 18th year. The Bird Club has been entertained after some of the walks in the homes and gardens of members including Mr. and Mrs. Howard H. Cleaves, Mr. and Mrs. R. S. Coles, Mr. and Mrs. Dagmar Johnson, Miss Katharine Seaman and Mrs. H. M. Trench, and Mr. and Mrs. Karl O. Nesslinger to whom we express our appreciation.

The Wild Life Sanctuary at New Springville and the feeding station in the Moravian Cemetery were kept supplied with grain, suet and peanuts during the winter months. The physical labor of preparing and distributing food for these stations was provided by the Junior Nature Club of the Museum. Additional food supply was provided for sanctuaries and feeding stations at the homes of various members.

In the spring, Boy Scouts studying for the Bird Study Merit Badge built bird houses from materials provided by the Bird Club

and placed them in the Sanctuary. The bird houses were constructed under the direction of Mr. Carlton Beil, field secretary of the Bird Club, who regularly gives a course in bird study to Boy Scouts each year.

On December 22, 1940, Messrs. Carlton Beil, Howard H. Cleaves, George H. Hallett, Jr., Henry C. Hasbrouck, Charles Pearson, Jr., and William F. Rapp, in cooperation with the National Audubon Society, took the Christmas Bird Census. A total of 2,702 individuals of 38 species were recorded for Staten Island.

The 27th Annual Meeting was held May 21, 1941 in the Museum. The speaker of the evening was Mr. Wm. G. Hassler of River Edge Manor, N. J. who gave a talk, illustrated by colored motion pictures, entitled "Exploring and Collecting in Forest, Field and Stream." The officers of the past year were reelected and Mr. Karl Nesslinger was elected secretary-treasurer to fill the office formerly held by Mr. Charles W. Leng.

Staten Island Camera Club

THOMAS B. GREENSLADE

This year the Camera Club patterned its programs after the ones carried out so successfully for the two years previous. The first meeting of the club was devoted to a speaker from outside the club. At the second meeting the club was entertained by a club speaker. This talk was followed by a print criticism and judging.

The subjects for the print competitions were not as limited as they have been in previous years. There were only three assigned topics: "Fall," "Indoor Pictures," and "Marine." The other monthly competitions were open to any subject material.

The winners in the monthly print submissions are as follows: Al Bonja, three times; Thomas B. Greenslade, twice; Dayton H. Lasher, twice.

Seven club speakers addressed the group during the year. The speakers, with their topics, are: Kenneth Adams, "The Life of a Photographer"; George Kelley, "High Speed Photography"; Edward Hannigan, "How to Make Your Hobby Pay"; Dayton H. Lasher, "Shutter Testing"; Thomas B. Greenslade, "Developers and Emulsions, Old and New"; Al Bonja, "Color Photography"; and Oliver Balmer, "Making a Home-Made Flash Synchronizer."

The criticism of prints on print submission night has been especially good this year. Many members have expressed the opinion that their work has improved greatly because of the helpful and friendly criticism given.

The club has succeeded in securing a number of very excellent outside speakers this year. The speakers, with their topics, include: Hy Swartz, of the Kalart Company, "Flash Synchronizers"; Carlyle Trevelyan, "Print Quality"; Ernest E. Draper, "Filters" and "The Abrasion Tone Process"; Stedman Jones, "The War Photographer"; Erle Buckley, "The Intangibles in Photography"; Joseph Berman, "Portraiture"; and Stanley Katcher, "Common Faults in Photography."

The annual exhibit of the Camera Club was held in January in the Art Gallery of the Museum. Additional showings of members' pictures were at the St. George and Paramount Theatres and several public libraries. Other activities for the year included publication of an annual containing members' prints, and an annual banquet.

The officers for the year 1940-41 were Thomas B. Greenslade, president; Dayton H. Lasher, secretary; and Edward Hannigan, treasurer.

Staten Island Horticultural Society

FRANK P. BAUMANN

During the past year the Horticultural Society continued its regular quarterly meetings under the leadership of Mr. Fred S. Heal, president. On May 14, a surplus plant auction was held in the Museum, the proceeds of which accrued to the Society. The chairman of the committee in charge of this meeting was Mr. F. A. Holder-Egger.

The annual non-competitive Iris Show was held on the weekend of June 8 and 9, 1940, with Mrs. F. A. Holder-Egger as chairman in charge.

The 1940 Rose Show, Mrs. Homer E. Marshall, chairman, was held June 15-16. Winners were: best rose, R. C. Wigand; best basket, R. C. Wigand; best vase, John D. Kohlmann; best 5 roses, Mrs. Evy Shields; best 10 roses, R. C. Wigand; best 15 to 20, R. C. Wigand.

The Dahlia Show was held September 28–29 with F. A. Holder-Egger, chairman. Winners were: best dahlia, Hans Olesen; largest dahlia, Alfred Augustine; best seedling, John Johnsen; best vase, Matthew Lehn; best 10, Matthew Lehn and John Johnsen; best 10 pompoms, Mrs. Viola Fuller; best basket pompoms, John Johnsen; best commercial exhibit, William Carter.

Due to weather conditions, the regularly scheduled Gladiolus and Chrysanthemum Shows were cancelled.

Staten Island Microscopical Society

I. C. G. COOPER

The Society functioned under the presidency of Mrs. Ruth W. Nauss until December, 1940. At the Annual Meeting held January 8, 1941 the following were elected to office: Miss E. O. Long, president; Mrs. R. W. Nauss, vice-president; Mr. George E. Ashby, treasurer; Mr. I. C. G. Cooper, secretary. The Society held six regular meetings and presented the Annual Exhibition at the regular Institute meeting in March.

The programs included:

October 2, 1940—Demonstration of Sectioning with the Spencer Rotary Microtone. The machine, shown by courtesy of Dr. R. E. Deal of Wagner College, was used to illustrate the serial sectioning of fixed tissue embedded in paraffin. Sections as thin as 5 microns were cut with amazing facility. Mr. Robert O'Connor gave explanations and demonstrations.

November 6, 1941—Dr. Wm. H. Wiegmann demonstrated his hand method of chopping moss leaves into thin slices for microscopical examination by using a section of razor blade held in forceps. He also showed some very interesting specimens of rare mosses.

December 4, 1940—Mr. Peter Thein illustrated a talk on rock sections with many beautiful specimens projected by polarized light.

January 8, 1941—After election of officers a general program of exhibits by members produced living Planaria by Mr. G. B. Wilcott, a chain form of *Bidulphia pulchella* by Dr. Wiegmann, parasitic Myxomycete by Mrs. Nauss, *Bidulphia quadrans*, a very rare diatom from Barbados, by Mr. J. F. Burke, and *Stichococcus subtilis* grown on agar by Mr. Cooper.

February 8, 1941—Devoted to a survey of exhibits for the Annual Exhibition held on March 15, 1941 when sixty-six slides were shown by members, visitors, and a group from Wagner College to make up a varied and beautiful showing of microscopic specimens.

April 2, 1941—Mrs. G. B. Wilmott exhibited a remarkable film of living protozoa taken by Dr. Brandwein of New York University.

Staten Island Philatelic Society

LEO KRONER

The Staten Island Philatelic Society met regularly the second and fourth Mondays of each month. The meetings of 1940-1941 were devoted largely to discussions on philatelic subjects. On evenings when no formal programs were scheduled members engaged in friendly exchange of stamps, thereby enjoying the opportunity of adding to their stamp collections during meeting periods. The Society also maintains an exchange system whereby members may take books home for examination in leisure moments. This department is run by an exchange manager who is present at every meeting to arrange for the exchange of books.

The Society conducted three auctions during the year, one of which was for the benefit of the British War Relief, and the others included items which were auctioned for the American Red Cross. Henry J. Murray was chairman of the Auction Committee and Clare Brown, Jr. was auctioneer.

Members of the Society have helped to stimulate interest in the children's stamp club of the Museum by making donations of stamps for distribution and for awards in contests.

A philatelic library has been commenced which includes publications on philatelic subjects. Dr. I. L. Nascher contributed a quantity of periodicals to be incorporated into this library.

The Christmas party was held as usual at the Museum. The annual dinner and the spring festival were held at the Immanuel Lutheran Church in New Springville with Mrs. Leo Kroner acting as chairman.

At the annual meeting in April the following officers were elected: Leo Kroner, president; C. D. Farlin, vice-president;

Anselm Nascher, secretary; Henry J. Murray, treasurer; Fred Bobring, exchange manager. The following were elected to the Board of Governors: Daniel Schneider, Thomas Waters, Wm. J. McCoy, Mrs. Vivien Prien and Mrs. Eva R. Bonney.

ANNUAL REPORTS—INSTITUTE

Annual Report of the Board of Trustees

READ AT THE ANNUAL MEETING OF THE INSTITUTE, MAY 17, 1941

The year 1940-1941 has brought with it many noteworthy events: some of sorrow, some of pleasant memory. It has brought the irreparable loss of many good friends of the Institute: our beloved director, Mr. Charles W. Leng, two trustees, Mr. Carl F. Grieshaber and Mr. George S. Humphrey and three faithful members, A. W. Callisen, Mrs. T. Livingstone Kennedy and Miss Gertrude Clark. Mr. Charles A. Ingalls was forced by ill health to resign as treasurer after thirty-five years of faithful service.

These losses have necessitated changes in officers, members of the Board of Trustees and the museum staff. Mr. Robert M. Leng was elected treasurer on November 4, 1940, and Roswell S. Coles was elected secretary and director on February 1, 1941. On January 20, 1941 Mr. Robert M. Leng was elected a trustee to succeed Mr. Humphrey and Mr. A. M. Anderson, Borough Park Director, was elected to succeed Mr. Grieshaber. Mr. Carlton Beil was elected curator on February 1, 1941 and Miss Audrey Moritz was elected assistant curator on February 15, 1941.

The financial structure of the Institute has been somewhat modified. The fiscal year, by vote of Institute members, now begins on May 1. The Rules and Regulations of the Board of Trustees have been amended to more clearly define the duties of various officers, especially in regard to fiscal activities.

Two noteworthy honors have come to members of the Board of Trustees. Mr. Davis was one of nine to receive on November 7, 1940 the Park Association of New York award for "outstanding service to the parks of New York City." In May, 1940 Mr. Burke was appointed honorary curator of Diatomaceae at the New York Botanical Garden.

The Britton Cottage and grounds continue to improve under the supervision of Mr. McMillen. Captain and Mrs. John Wilson are taking a genuine interest in this old house and have devoted a great deal of time and energy in its improvement. The cost of the upkeep however, must be met from general funds and this does represent a considerable financial burden.

One issue of the Proceedings has been printed and reprints with an attractive cover have been made of Mr. McMillen's article on the Britton Cottage. Ten numbers of the Bulletin have also been printed with 16 articles on local natural history.

Contributions have been received from several individuals and groups, especially Mr. William T. Davis, Mrs. L. A. Dreyfus, Mr. Hans Hinrichs, The Woman's Auxiliary, The American Red Cross and the Professional Engineers.

There have been 26 new Institute members, 39 Auxiliary members. Mr. Alfred McNamara has been added to the Art Committee which now numbers five honorary and sixteen active members.

Attendance during the year has shown a satisfactory increase, a total of 48,355, an increase of 11.9% over the past year. Of these, 12,450 were children visiting in classes, 3000 were children in regular museum classes. There were 65 Staten Island adult or school groups given talks by staff members away from the museum with a total of 9000. In addition to public schools, these include talks to elementary school principals, Parent Teachers Association, Tottenville High School, Port Richmond High School, Boy and Girl Scouts, Mount Loretto, and three radio programs.

One hundred seventy-eight adult groups used the museum with a total of 5659 in attendance, an increase of 29 groups and 1049 individuals. Special features include the Rose and Dahlia shows, photo contests, stamp auction, art lectures, Woman's Auxiliary birthday party, a bridge, as well as 8 regular Institute meetings of which the Annual Microscopical Society exhibition was of exceptional interest. Eight Woman's Auxiliary meetings and 9 art exhibitions were held as usual. Outdoor activities include monthly bird walks, a hike from St. George to Tottenville, and participation in the annual Bird census.

The main exhibition floor has been improved by the addition of some case lights but much more has to be done before this feature is satisfactory. Special exhibits have been prepared to show objects of timely interest, shore birds, winter birds, bird of prey, etc. We are indebted to Mrs. Cleaves for backgrounds for our habitat groups.

The library continues to be an important function of the museum building, although handicapped by a lack of a librarian to care properly for the 9,000 volumes. Several new books have been

added during the year, especially Abstracts of Wills and Letters of Administration, prepared by Mrs. Fast. Mr. Burke has continued to take charge of the scientific periodicals. Assistance has been given many individuals from small boys who want to see a picture of a rattlesnake to city officials whose records, at least in some respects, are not as complete as ours.

Our educational program offers a variety of activities. Lectures in Staten Island schools, to both children and adults have already been referred to. Classes visiting the museum for lectures and demonstrations take up several hours of the day.

Our regular museum groups have met as usual after school. The Nature Clubs have continued the general plan of giving emphasis to special nature topics each month. The younger groups have had games and stories in keeping with these topics. The older groups have attempted to bear them in mind in preparing and submitting field reports. Illustrated talks, games and handicraft have been included in meeting periods.

The Museum Guides have become increasingly helpful as staff aides. In addition to assisting at meetings they have found numerous ways of being useful about the Museum. During the cold months they carried the food, which had been prepared by the Junior Nature Club, to the Bird Sanctuaries.

Lectures, preceded by games, have been given regularly on Friday afternoons. An attempt has been made on every occasion to have objects on hand that could be studied at close range or actually handled. This has frequently led to a discussion period following the talk. Guest speakers during the year have included Mr. Frank Becker, Mrs. George Creutzburg, Mr. M. D. Cunningham, Mrs. Edwin Ford and Mr. Abraham Hurwitz.

Monthly field trips have been conducted for the older groups. Special trips have been arranged for the younger children and mothers.

The Museum Stamp Club has met every Saturday morning. Meeting periods have been devoted to stamp exchange, discussions, philatelic games and quizzes. The Club has been fortunate in having had donations of stamps from older friends among whom were: Mr. Wm. T. Davis, Mr. Fred Dockstader, Mr. C. D. Farlin, Mrs. Edwin Ford, Mr. H. J. Murray, Dr. I. L. Nascher and Mr. Daniel Schneider.

The Museum Art Class has met Saturday mornings under the direction of Miss Agnes C. Nash. The class directed its efforts to doing free-hand drawing from life. In August the work of the preceding year was exhibited in the Art Gallery.

An increasing attendance both in total numbers and in individual groups while bringing certain satisfactions does add to the labors of the small staff and creates many problems. We are indebted to members of the National Youth Administration for their help. We have tried to increase the efficiency of both the staff and building by manipulating duties and space but both the building and staff are too small for real efficiency.

In conclusion we must pay tribute to many whose assistance has made the work of the museum possible; Mr. Davis, Mr. Burke, Mrs. Bonney, Mr. Moennich and to Mrs. Hoffmeyer and Mrs. Strauss for providing the "hospitality" we enjoy at the conclusion of these monthly meetings.

Institute Meetings

October 10, 1940.—The Director, Mr. Charles W. Leng, gave an illustrated account of his vacation trip entitled "An Automobile Journey to California" and Mr. Emerson Conklin showed a series of colored motion pictures, "In Yellowstone Park with a Color Camera."

November 10, 1940.—Dr. Clyde Fisher spoke to a capacity audience on "Einstein's Theory of Relativity," using motion pictures to illustrate his exposition.

December 21, 1940.—A fascinating and exquisitely illustrated lecture "Rainbow Hues of the Insect World" was presented by Mr. Edwin Way Teale.

January 18, 1941.—Mr. Aleko E. Lilius talked on "Shendzi, the Witch Doctor" illustrating his account of the secret rites of the Zulu medicine men with lantern slides.

February 15, 1941.—Miss Laura Lorensen spoke on "The Romance of Pottery and Porcelain in Every Time and Clime," presenting a series of colored lantern slides of representative pottery, both antique and modern.

March 15, 1941.—The Staten Island Microscopical Society held its Eleventh Annual Exhibition of Microscopic Objects.

April 19, 1941.—Sound motion pictures "The River," "Yosemite," and "Craters of the Moon" were shown, the last two being introduced by Miss Moritz and Mr. Coles.

May 17, 1941.—The Annual Institute Meeting. Reports were read, trustees elected and other business transacted. A splendid account of "Wasps, Social and Anti-social" was given by Mr. Albro T. Gaul.

Section of Art

The Art Committee, Mrs. Henrietta Beaumont, chairman, arranged the following exhibitions from May 1940, through May 1941. Each exhibition was formally opened by a reception.

Historical Buildings and Old Homes on Staten Island, May 3, 1940, to June 22.

Paintings and Sculpture from Studio Guild, New York, June 22 to July 29.

Sixteenth Annual Art Class Exhibition, August 5, to August 28.

Staff Members of American Museum, Exhibition, September 4, to October 17.

S. I. Art Association, Members Exhibition, October 22, to November 29.

Christmas Sale of Small Paintings and Sculpture, December.

Camera Club Exhibition, January 1, to January 15.

Arts and Crafts Exhibition, January 21, to February 28.

Paintings from Studio Guild, New York, March.

Staten Island Artists Exhibition, April to June 9.

Woman's Auxiliary

MRS. CARLA H. NESSLINGER

The Woman's Auxiliary has held its meetings on the last Wednesday of each month, from October 1940 to May 1941. Executive meetings were usually held preceding the regular meetings, though occasionally additional Executive Meetings were called.

Officers for the period were: Mrs. George E. Brown, president; Mrs. James A. Holden, 1st vice-president; Mrs. Anton W. Hoffmeyer, 2nd vice-president; Miss Gertrude Clark (deceased February 18, 1941), 3rd vice-president; Mrs. Karl O. Nesslinger, recording secretary; Mrs. Pauline Feldman Stillwell, corresponding secretary; and Mrs. John W. Dreyer, treasurer.

Chairmen of Standing Committees were: Mrs. Clarence C. Stoughton, Program; Mrs. P. A. Bonney, Membership, and Mrs. C. Frederick Pertsch, Publicity.

The Auxiliary is affiliated with the New York City Federation of Women's Clubs, Inc., in which Mrs. Clarence C. Stoughton holds the office of 3rd vice-president, and Mrs. Charles K. Bardes is Richmond Borough Director.

The Auxiliary has made a donation of \$175.00 to the Institute for interior decorating, and has also contributed to the Red Cross, the Edwin Markham Memorial Association, and has purchased flags for mountain schools which are delivered through the New York City Federation.

Programs for the year have been interesting and varied. On October 30, 1940, the Annual Reception and Tea was held in the Museum to open the season. On November 27, 1940, Mr. Knute Olsen, Agent of the Norwegian Government Railways, gave an illustrated lecture on "The Beauties of Norway." On November 28, 1940, an innovation in the form of a Card Party took place in the Museum, and met with great success.

The December meeting was held one week ahead, on the 18th. Christmas Carols were sung by the Wagner College Choir, and Mr. Fred B. Merkle spoke on "The Life, Wit and Humor of Mark Twain." On January 29, 1941, Mr. and Mrs. George Creutzberg showed their own motion pictures in color, illustrating their recent trip through the West.

The February meeting celebrated Music Week, and Mrs. Ralph McKee gave a very entertaining talk on "Episodes in the Life of Klara Schumann." This was illustrated by songs by the St. Cecelia trio: Mrs. Pauline Stillwell, Mrs. Robert Moller, and Mrs. John Swett.

On March 6, 1941, the Auxiliary celebrated the 22nd Anniversary of its founding, and this event was marked by a Reception and Tea at which 22 of the early members carried candles, and Mr. A. W. Hoffmeyer, charter member, carried the birthday cake.

At the regular March meeting held on the 26th, Miss Charlotte V. Authier, Richmond Welfare Director, gave a very enlightening description of local welfare work. Mrs. K. Macrae Rogers entertained with songs, accompanied by Mrs. Clifford Chapin.

The Annual Luncheon of the Auxiliary was held on May 5, 1941,

at the Meurot Club, 120 guests being present at this affair. The main feature of entertainment was a Fashion Show by Miss Grace McDermott. Mrs. Pauline Stillwell sang several solos, accompanied by Mrs. James Haydock.

The Annual Meeting took place on May 28, 1941. The theme of this meeting was "An Hour with Edwin Markham and Local Poetesses." Mrs. Sophie Shields, Assistant Librarian at Wagner College told of the insight she had gained into the character of Edwin Markham, from her work among his writings. Poems by Mr. Markham were read by Mrs. Donald Holmes and original poems were read by Mrs. Ina R. Peterson, Mrs. Hartley Smith, Mrs. H. H. Granger and Miss Gloria Amoury. Before and after the literary program, Mrs. Anders Emile, accompanied by her daughter Thelma at the piano, sang several lovely solos. Annual reports were read and the present officers were re-elected, with the exception of two. Mrs. Henry Murray was elected 3rd vice-president, and Mrs. George Smith was elected corresponding secretary.

Donors

Russell Abraham
Aeolian Singers
American Red Cross, Junior
Group
Ascension Day School
Mrs. Celine Baekeland
C. C. Barclay
Mrs. Edna H. Barger
Ely M. Behar
W. R. Britton
Elliott Burgher
Mrs. D. S. Callisen
James P. Chapin
Miss S. Gertrude Clark
H. H. Cleaves
Mrs. R. P. Cook
Wm. T. Davis
Estate of E. C. Delavan, Jr.
Mrs. Louis A. Dreyfus
Mrs. Byron M. Fast
Federation of Mothers' Clubs
Fred Fredericks
Miss E. T. Harrison
Hans Hinrichs
Anna Hyatt Huntington
Frederick A. Johnston
Miss Susan A. Kachline

Carl Kalmus
John Koestner
Mrs. Louise Krunglivcus
League of Women Voters
Morris Lunn
Mrs. Caroline Lyman
Mrs. James McNiesh
Captain & Mrs. T. I. Miller
Herman Moennich
Dr. I. L. Nascher
Mrs. Pottberg
Professional Engineers' Society
Mrs. A. G. Quayle
John Rader
P. L. Sperr
Ernest Shoemaker
Mrs. Robert C. Stanley
Staten Island Garden Club,
S. I. Teachers Union
Hans L. Stecher
Elbert Storer
State Education Department
Bureau Radio & Visual Aids
George W. Tuttle
Mrs. Sophia Vigorito
Ralph Volpe
Woman's Auxiliary

Staten Island Institute of Arts and Sciences

TREASURER'S REPORT

Statement of Fund Balances

May 1, 1940 to April 30, 1941

	<i>Balances May 1, 1940</i>	<i>Increases</i>	<i>Decreases</i>	<i>Balances April 30, 1941</i>
Nathaniel L. Britton legacy:				
Principal	\$22,862.33	.....	.....	\$22,862.33
Income	761.95	\$ 803.55	\$ 595.71	969.79
William T. Davis fund:				
Principal	12,215.05	600.00	.....	12,815.05
Income	252.69	117.41	33.89	336.21
D. M. Van Name fund:				
Principal	100.00	.....	.....	100.00
Income	57.98	6.60	.....	64.58
John J. Crooke fund:				
Principal	2,000.00	.....	.....	2,000.00
Income .....	.....	90.00	56.31	33.69
Building fund:				
Principal	26,418.39	700.00	.....	27,118.39
Endowment and General funds:				
Principal	13,000.00	.....	.....	13,000.00
John Rader gift	500.00	.....	500.00	.....
J. H. Crittenden gift	200.00	.....	200.00	.....
Science and education	64.29	.....	.....	64.29
Woodrow property income ..	156.83	720.00	570.55	} 527.12
Britton cottage .....	.....	53.50	128.61	
General surplus	214.14	933.85	852.04	
Totals	<u>\$78,803.65</u>	<u>\$4,024.91</u>	<u>\$2,937.11</u>	<u>\$79,891.45</u>

Analysis of Increases and Decreases

May 1, 1940 to April 30, 1941

Increases:

Interest on securities	\$ 641.37
Premium on securities redeemed	225.00
Interest on savings bank balances	297.54
Dues from members (current)	520.50
“ “ “ (1941-42)	22.50
Contributions to Davis fund	600.00
Contributions and gifts—sundry	224.50
Rent of Woodrow property	720.00

Sale of book-binding equipment	70.00
Sale of Britton Cottage booklets	3.50
Rader and Crittenden gifts applied to bank loan (see contra) ..	700.00

Total increases	<u>\$ 4,024.91</u>
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Decreases :

Publications (Britton fund)	\$ 595.71
General science (Davis fund)	4.22
City Bank commission, etc. (Davis fund)	29.67
Books and subscriptions (Crooke fund)	56.31
Insurance and other expenses (Woodrow)	137.00
Real estate taxes (Woodrow)	433.55
Expenses of Britton Cottage	128.61
Interest on bank loan	119.11
Sundry	732.93
Rader and Crittenden gifts applied to bank loan (see contra) ..	700.00

Total decreases	<u>\$ 2,937.11</u>
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Summary of Assets

April 30, 1941

Securities :

In safe deposit box at Corn Exchange Bank Trust Co. :

U. S. Treasury, 2 $\frac{7}{8}$ %, due 1960	\$ 3,000.00
N. Y. Edison Co., 3 $\frac{1}{4}$ %, due 1965	3,000.00
City of New York, 4 $\frac{1}{2}$ %, due 1957	2,000.00
Participation B/M, T. G. & T. Co., 5 $\frac{1}{2}$ %	1,955.55
“ “ , Mtge. Corp., 5 $\frac{1}{2}$ %	939.32
Prudence Bonds Corp., 5 $\frac{1}{2}$ %, due 1945	96.00
“ “ “ , V. T. C., 2/10 shs .....	.....

Held by City Bank Farmers Trust Co. :

Home Owners Loan Corp., 3%, due 1952	950.00
Participation B/M :	
501/5 Madison Ave., 4 $\frac{3}{4}$ %	2,000.00
537 Fifth Ave., 5%	100.00
Premium paid	32.22
Subscription to U. S. Treasury, 2 $\frac{1}{2}$ %, due 1952-54	5,000.00

Total securities	<u>\$19,073.09</u>
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Cash :

Staten Island Savings Bank, No. 32650	\$ 287.71
“ “ “ “ , No. 7763	6,669.07
Richmond County Savings Bank, No. 29637	336.21
“ “ “ “ , No. 39024	6,003.37

City Bank Farmers Trust Co., principal	38.78
Corn Exchange Bank Trust Co., checking a/c	620.78
Petty cash fund at Museum	50.00
Total cash	\$14,005.92
Cost of building addition	\$35,043.39
Cost of Woodrow property	13,669.05
	\$81,791.45
Less—due to Corn Exchange Bank Trust Co.	1,900.00
Total assets	<u>\$79,891.45</u>

NOTE: The Institute also owns certain items of real and personal property, such as the original Museum building, the Britton cottage, furniture and equipment, exhibits, etc., which are not carried on the books.

PUBLICATIONS OF THE INSTITUTE

1. PROCEEDINGS OF THE NATURAL SCIENCE ASSOCIATION OF STATEN ISLAND

Complete sets cannot now be supplied.

These PROCEEDINGS were printed in octavo numbers, partly in leaflet and partly in pamphlet form, from November 10, 1883, to June 3, 1905, and are included in nine volumes, separately indexed.

They may be obtained by members and patrons at \$1.50 per volume. To others the price per volume is \$3.00.

2. PROCEEDINGS OF THE STATEN ISLAND ASSOCIATION OF ARTS AND SCIENCES

These PROCEEDINGS are in 8vo parts, 4 parts to a volume except V. 7, which was issued complete in one part. They contain the scientific and other records of the meetings of the Association and consist of v. 1-7, June 1905—May 1918.

By resolution of the Association all members and patrons may obtain back parts at 35 cts. or back volumes at \$1.25. To others the price is 75 cts. per part or \$3.00 per volume for both current and back issues.

3. PROCEEDINGS OF THE STATEN ISLAND INSTITUTE OF ARTS AND SCIENCES

Form and price same as PROCEEDINGS of the Association.

These PROCEEDINGS contain historical, scientific, and other articles, as well as records of the meetings of the Institute, and the current issues are sent free to patrons and to members in good standing.

Vol. 1, Oct. 1918—May 1922, p. 1-165, *pl. 1-4*. 1923.

Vol. 2, Oct. 1922—May 1924, p. 1-186. 1924. (Pt. 1, Special Issue.)

Special Issue, Jan., 1924. List of the Coleoptera of Staten Island, by Charles W. Leng and William T. Davis. 82 p. and index. Price \$1.25.

Vol. 3, Oct. 1924—May 1925, p. 1-154. 1926.

Vol. 4, Oct. 1925—May 1927, p. 1-138, *pl. 1-4*. 1928.

Vol. 5, Oct. 1927—May 1930, p. 1-205. 1930-1931.

Vol. 6, Oct. 1930—May 1932, p. 1-220, *pl. 1-8*. 1931-1933.

Vol. 7, Oct. 1932—May 1936, p. 1-164, *pl. 1-4, and map*. 1933-1935.

Vol. 8, Oct. 1934—May 1938, p. 1-170, *pl. 1-3*. 1937-1938.

Vol. 9, Oct. 1938—May 1940, parts 1, 2, p. 1-69, *pl. 1-10*. 1940.

Special Publication, Nov. 12, 1931. History of the Staten Island Institute of Arts and Sciences, prepared for Semi-Centennial Meeting; list of members included. 24 p. illus. Price 50 cts.

4. THE MUSEUM BULLETIN

Monthly octavo leaflets, containing official notices of meetings of the Institute and sections, important items of business transacted by the Board of Trustees, and descriptive items concerning the museum exhibits and activities. Begun in August 1908. Current numbers sent free on application. Back numbers 2 cents each.

Checks should be made payable to the Staten Island Institute of Arts and Sciences, and all remittances and communications addressed to

Staten Island Institute of Arts and Sciences,
Staten Island, N. Y.

MUSEUM STAFF 1942-1941

<i>Director</i>	Charles W. Long, B.Sc., to Jan. 25, 1941 Roswell S. Coles, M.A., from Feb. 1, 1941
<i>Curator</i>	Roswell S. Coles, to Jan. 31, 1941 Carlton Bell, from Feb. 1, 1941
<i>Assistant Curator</i>	Carlton Bell, to January 31, 1941 Andrew Morris, from February 15, 1941
<i>Museum Guard</i>	John Koestner
<i>Museum Assistant</i>	Agnis C. Nash
<i>Educational Assistant</i>	Eva K. Bouney
<i>Janitor</i>	Harriett Johnson
<i>Night Watchman</i>	William E. Johnson, to June 30, 1940 Robert B. Holmes, from July 1, 1940

DEPARTMENT OF ARTS AND ANTIQUITIES

In charge of Miss Nash

DEPARTMENT OF BOTANY

William H. Wiegman, M.D., *Honorary Curator*
of Cryptogamic Botany

DEPARTMENT OF ZOOLOGY

William Thompson Davis, *Honorary Curator*
James Paul Chapin, Ph.D., *Honorary Assistant*
John Koestner, *Assistant*

DEPARTMENT OF BOOKS

Joseph F. Burke, *Honorary Curator*

DEPARTMENT OF MINERALS

Joseph F. Burke, *Honorary Curator*
Carlton A. Sinner, *Honorary Assistant*

PROCEEDINGS
OF THE
STATEN ISLAND INSTITUTE
OF
ARTS AND SCIENCES

EDITED BY
JOSEPH F. BURKE, WILLIAM T. DAVIS
ROSWELL S. COLES
PUBLICATION COMMITTEE

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Issued October 7, 1942
Staten Island, N. Y.
THE SCIENCE PRESS PRINTING COMPANY
Lancaster, Pa.

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PROCEEDINGS
OF THE
STATEN ISLAND INSTITUTE
OF
ARTS AND SCIENCES

VOLUME IX

OCTOBER 1941—MAY 1942

EDITED BY
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ROSWELL S. COLES
PUBLICATION COMMITTEE

PUBLISHED BY THE
STATEN ISLAND INSTITUTE OF ARTS AND SCIENCES
STATEN ISLAND, N. Y.
1942

THE SCIENCE PRESS PRINTING COMPANY
LANCASTER, PENNSYLVANIA

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THE OLD LAKE MILL

From a water color sketch by W. R. Miller, Aug. 3, 1891

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VOL. 9

OCT., 1941—MAY, 1942

PART 4

The Old Lake Tide Mill

WILLIAM T. DAVIS

Several years ago the writer purchased from a dealer the color sketch made on August 3, 1891, of the old Lake Tide Mill on Mill Creek, Great Kill, by W. R. Miller, father of Captain Thomas I. Miller of 217 Safford Avenue, Annadale, Staten Island. The original sketch is now on exhibition in the Museum, and the illustration reproduced in this number of the Proceedings is from a photograph of the sketch made by Mr. H. S. Thompson, Jr., of the Staten Island Camera Club. The Institute also has on exhibition a wood engraving published in 1853, entitled "The Narrows from Staten Island, New York," from a drawing made by W. R. Miller.

In 1891 the Mill is shown in fair condition, but it was demolished about five or six years later. For a number of years the mill-stone and a portion of the old wheel were in the meadow near the one-time site of the Mill, but what remained of the wheel was cut up for fire wood during the cold winter of 1933-34. Photographs of the old mill-stone and the broken wheel, made in 1925 and 1926, are preserved in the Museum.

On very old maps the Mill is shown in the possession of the Lake family, but in the "Map of Staten Island or Richmond County, surveyed by J. C. Sidney, Published by M. Dripps, 1850," Loveridge is given as occupant. On this map what was later called Crooke's Point is shown extending nearly a mile and one half to the south west of the old Mill on Mill Creek. The road to Brown's home and ship yard near the end of the Point ran parallel to the beach and on the southerly side of Bass Creek, which emptied into Great Kill midway between the Mill and the end of the Point. The old road lead-

ing from the Mill Road over the meadow still crosses the upper part of the Bass Creek of 1850, and some years later, but it is no longer as important a road as it was in 1850. Storms and the Atlantic Ocean have moved the sandy beach inland and for much of its length Bass Creek is no more, but has become filled with sand. This permits easy access to the present beach by the road leading close to the site of the old Tide Mill.

On Drripp's map of 1872 John J. Crooke is given as owner of the Point which he had purchased some years previously but Brown's Ship Yard is not shown. The old Mill is indicated as "Mill," with "Lake" living near by at the bend of the "Mill Road." "Oyster Island" (now gone) is shown in the Great Kill opposite the mouth of Bass Creek.

In Beer's Atlas of 1874 "Lake's Grist Mill" is shown, as is the home of Arthur Lake and his eighteen acre tract. As the land was subject to inundations at exceptionally high tides, the house and several acres were surrounded by a wall of earth. Inside the enclosed area the ground was cultivated and a number of fruit and ornamental trees were planted about the house.

On Sunday, April 13, 1800, the writer walked along the Mill Road to the home of Mrs. Arthur Lake and her family. The old Mill had not been operated for some time, as there had been nothing to grind. The family called the wall about their home the "China Wall," and Mrs. Lake said that as long as she could remember the wall had been there and protected them in time of need. As recently as the previous year, in September, 1880, during a high tide the sea came up around her home, which the wall prevented from being flooded. In later years, after the departure of the Lake family, the entrance road leading from the Mill Road was not kept built up, with the result that the salt water occasionally occupied the one-time protected area and caused considerable inconvenience to the occupants of the several cabins that had been built in the enclosure behind the wall.

A later photograph received from Mrs. W. F. Meschenmoser, whose maiden name was Lake, shows a less picturesque old Mill, with the trees gone and the Mill itself out of repair. The site of the old Mill as well as much of the surrounding meadow, is now included in the present Marine Park. The wall of earth that surrounded the Lake homestead, as well as many of the trees, are still there, and it is hoped that they will be preserved by the Park Department.

Breeding Birds of Staten Island, 1942

HOWARD H. CLEAVES

In my lecture travels around the United States I have discovered one sure way to cause surprise. It is by telling people that within the limits of the greater city of New York there are still to be found numbers of acres and dozens of farms. Perhaps some New Yorkers, in thinking of New York as Manhattan and nothing more, but we who live in the "hamlet" of Richmond Borough, which is Staten Island, know from the color and context of our tax notices that we, too, are woven into the fabric of the Great City. And taxes, I am led to believe, are at times beneficial to birds and other wild life, although by indirection. I can show you where streets were surveyed and concrete sidewalks laid down perhaps fifty years ago, places where houses were never built and nature long ago foreclosed and moved in. Trees grow, grass, grape vines and catbirds have taken over and the sidewalks have disappeared beneath a mantle of decayed vegetation to await the prying of some future archaeologist. The realtor's loss is the naturalist's gain.

Thus it is that Staten Island, incredible as it may seem, appears to support a greater number of breeding species of birds in this year of 1942 than it did fifty-seven years ago. In 1885 the late Dr. Arthur Hallowell compiled a list of the Island's nesting birds and published it in the *Proceedings of the Nineteenth Annual Association of Staten Island*. This list shows a total of twenty-seven species, and the study contains some species which even then had ceased to breed on the Island. Much later, in their *History of Staten Island and Its People*, William T. Davis and Charles W. Long, (1906), published "An Annotated List of the Birds Known to Have Breed on Staten Island," the total being twenty-seven species. As in the case of the Hallowell listing, this more recent enumeration contained many birds which formerly bred, but which had ceased to do so.

Realizing the value a modern survey of Staten Island bird life would possess, the writer, as president of the Staten Island Bird and Nature Club, invited qualified observers to participate in the taking of a census of breeding birds June 7, 1942. A total of ten observers took part in the effort—Carlton Bell, Howard Cleaves, Paul Cooper, Billy Flamm, Mr. and Mrs. Carol Stryker, of Staten

Island, Edward Fleisher, Arthur Kumin, Bernard Nathan, Edward Whelan, of Brooklyn. Groups and individuals covered widely separated parts of the Island, each unit being assigned to specific territory to avoid duplication and overlaps. The time during which observations were made was from 5 a.m. to 8 p.m., Eastern War Time—that is, with the clock advanced one hour over sun time. The day was clear and warm, the temperature ranging between 70 and 80 degrees.

The plan of a brooding bird census is to select a date when migration is ended, so the enumerators can be confident that the great majority of birds encountered are permanent residents or summer residents and therefore breeders in the territory selected. The date must not be too late else the males will have ceased to sing, and the observer will be deprived of one of the most important aids in locating and identifying birds. The Staten Island census date must fall within the period between May 15th and June 15th to yield maximum results. It was decided not to attempt a count of individuals, as is done in the case of a Christmas bird census, but to record the total number of species for the day, with special attention to rarities. We hoped that light might be thrown on doubtful cases—birds whose status on the Island at this season was in doubt or a total enigma—and this happily is what occurred.

The composite list turned in by all observers totaled 73 species. Four of these were known to be non-brooders, bringing the number down to 71, but there are some additional species known to nest on the Island and all were escaped observation by the ten enumerators on the day of the census. The addition of these nine raises the list to eight species known or presumed to breed on Staten Island as of 1942. But this is not the whole story, because a nest with one egg of the Least Tern was discovered on Crouker's Pond July 1st by Mr. George Wilcox with Mr. Hercule Trudel and the writer as witnesses. This is a splendid first record for the Island. At least two additional nest hollows were seen and were probably soon to contain eggs, as there were Least Terns in the number of about a dozen over head and above the waters of Great Kill nearby. There are still other species, including the Wilson's Thrush, Black and White Warbler, Least Flycatcher, Savannah Sparrow, possibly the Yellow-throated Vireo, which may still breed on the Island, but the final proof must await the time when more field work can be done.



(Photograph by George E. Wilson, May 24, 1941)

LEAST TERN AT CROOKER'S POINT

This photograph of an egg and newly hatched young represents the first Staten Island breeding record of the Least Tern.



(Photograph by William Emerson, Jr., 1942)

PIPING PLOVER AT OAKWOOD BEACH

This photograph shows a male piping on a nest of grass and twigs. This is the first Staten Island record.

and at the proper season. There is always the prospect that a species such as the Tufted Titmouse, formerly a permanent resident on Staten Island but now apparently gone, may return again. The Titmouse still resides in parts of nearby New Jersey. Then, too, there is the exhilarating possibility that some bird like the Least Bittern, the Coot or the Gallinule may elect to settle down for a season with us, and no doubt would do so if we had suitable fresh water ponds with deep margins of cattail.

Following is the combined list of birds observed on Staten Island June 7th, 1942. Those marked by an asterisk (*) are known not to breed on the Island.

- | | |
|-----------------------------------|----------------------------|
| 1 Double-crested Cormorant* | 33 Crow |
| 2 Great Blue Heron* | 34 Fish Crow |
| 3 Green Heron | 35 Black-capped Chickadee |
| 4 Black-crowned Night Heron | 36 White-breasted Nuthatch |
| 5 American Bittern | 37 House Wren |
| 6 Mallard | 38 Long-billed Marsh Wren |
| 7 Black Duck | 39 Short-billed Marsh Wren |
| 8 Cooper's Hawk | 40 Catbird |
| 9 Marsh Hawk | 41 Brown Thrasher |
| 10 Osprey* | 42 Robin |
| 11 Sparrow Hawk | 43 Wood Thrush |
| 12 Bobwhite | 44 Starling |
| 13 Ring-necked Pheasant | 45 White-eyed Vireo |
| 14 Killdeer | 46 Red-eyed Vireo |
| 15 Woodcock | 47 Blue-winged Warbler |
| 16 Herring Gull* | 48 Yellow Warbler |
| 17 Mourning Dove | 49 Chestnut-sided Warbler |
| 18 Yellow-billed Cuckoo | 50 Prairie Warbler |
| 19 Black-billed Cuckoo | 51 Oven-bird |
| 20 Barn Owl | 52 Yellow-throat |
| 21 Short-eared Owl | 53 Yellow-breasted Chat |
| 22 Chimney Swift | 54 Redstart |
| 23 Ruby-throated Humming-
bird | 55 English Sparrow |
| 24 Belted Kingfisher | 56 Bobolink |
| 25 Flicker | 57 Meadowlark |
| 26 Downy Woodpecker | 58 Red-wing Blackbird |
| 27 Eastern Kingbird | 59 Orchard Oriole |
| 28 Crested Flycatcher | 60 Baltimore Oriole |
| 29 Phoebe | 61 Grackle |
| 30 Wood Pewee | 62 Cowbird |
| 31 Barn Swallow | 63 Scarlet Tanager |
| 32 Blue Jay | 64 Cardinal |
| | 65 Rose-breasted Grosbeak |

00 Indigo Bunting	71 Seaside Sparrow
01 Oriole	72 Chipping Sparrow
02 Towhee	73 Field Sparrow
03 Grasshopper Sparrow	74 Swamp Sparrow
04 Sharp-shinned Sparrow	75 Song Sparrow

The only proof of nesting "that would hold in court" is to find the nest. This being so, it should be pointed out that proof of nesting is lacking with the following species among the summering birds just listed:

Starling
Bobolink
Sharp-shinned Owl
Short-billed Marsh Wren
Chimney-swept Warbler
Russet-backed Thrush

In bird land there are always "left-overs"—non-breeders consisting of sexually immature individuals, partial cripples and some with oil on their plumage—and the student abroad must always use discretion in reaching conclusions with regard to these irregulars. There are also a few common summering birds and birds which well baffle the novice. One such is the Wilson's Petrel or Mother Carey's Chicken which commonly appears in Upper as well as Lower New York Bay some time during the second half of June. The fact that it is not on Staten Island waters in June does not mean that it breeds here. Far from it because, as the ornithologist will know, this species will nest in the Atlantic during all winter.

The nine species earlier referred to as known breeders for the Island, although having escaped all ten observers on the day of the census, are:

Woodcock
Clayton Rail
Pied-billed Grebe
Ring-billed Gull
Lesser Frigatebird
Small Owl
Whimbrel
Lesser Frigatebird
Lesser Frigatebird

In recapitulation it may be concluded that approximately eighty-five species of wild birds breed on Staten Island at the present

1942) The English Sparrow, Ring-necked Pheasant and Hareling are introduced species. The remnant Batswana which apparently have survived on the island are scarcely to be considered native Borneo Islanders, being presumably descendants of stock brought in from western states and liberated here by sportsmen in an effort to reestablish the species with us.

During the past few years noteworthy changes have taken place in the Oakwood Beach and Great Mills district through dredging operations incident to the preliminary development of Marine Park. A considerable area of sand, shell and barren clay has been created and this condition has brought in the Piping Plover, Least Tern and Prairie Horned Lark, although the lark is reported by Mr. Nathan to have been breeding at Miller Field, New Dorp, during the past season or two, and at that place the surface is not sand waste but short grass. The elimination of all sharks belonging to squatters and others, and the policing of Marine Park against trespass, coupled with a delay in the progress of park development operations, has resulted in a stimulation of bird life which is rare has greatly stimulated local students of the birds. Those unfamiliar with "our Island" might like to know that it contains about fifty square miles and that its human population is rated at 160,000.

Wild Deer on Staten Island

HOWARD H. CLEAVES

Reports about deer on Staten Island were heard in the spring of 1941, but we did not succeed in personally observing one until June 11th, 1941, when a doe was seen in a field on the Elmer T. Butler estate near Richmond Valley. When we stepped from our car and started across the field the animal disappeared behind a thicket of poison ivy and sumach screening a few old apple trees. By walking cautiously we were able to reach the near side of the thicket and see the deer only twenty-five yards distant, her eyes shining as the beam of a pocket flashlight was directed toward her in the dusk. She stood still for a few moments, then bounded off among the apple trees.

Soon afterward with William T. Davis, we visited the Butler estate, but failed to see the deer, although fresh droppings were found at the place where the animal had been observed previously. Mr. Davis collected a small boxful of the pellets which suggest black varnished angular raisins.

Later in the Summer, about the end of July, the doe showed herself accompanied by a spotted fawn judged to be about two months old. The two animals were seen together many times by employees on the estate, by members of the Butler household, twice by me, and on one occasion by Mr. Davis. With Mrs. Cleaves, my son, and Mrs. Fred Safford, I witnessed one afternoon at about six o'clock the rare spectacle in which the fawn ran 'round and 'round in front of its mother as if showing off like a child. The fawn came to a halt close to its mother as if inquiring: "Well, mother, what did you think of that one?," then crouched low on its frail-looking legs, laid its ears back along its neck and started off on another violent round of running apparently for the mother's benefit. All of this took place in an apple orchard not more than two hundred yards from Hylan Boulevard, but hidden from it by a slope in the land.

Finally the doe and her fawn left the Butler estate, fragmentary reports being received about them from localities near Greenridge. One such report stated that police in a cruising car had seen the doe and fawn crossing a highway at five o'clock A. M. In September,

1941, rumor had it that four animals—two does, a fawn and a buck—had been seen at Oakwood Heights.

As to how the deer came to Staten Island there is no positive proof, it being a matter of speculation that they may have been forced to flee adjacent territory in New Jersey, either by forest fires or dogs. One story was that a doe had entered a building at the water front in Perth Amboy and, when capture had been attempted, had leaped through a window into Staten Island Sound and swum to the Island. Several persons it was said had observed it come ashore on the Staten Island side near Tottenville. If true, this could easily have been the doe which lived at the Butler estate for so many weeks. She evidently dropped her fawn after reaching the Island and probably had it hidden nearby when we first saw her on the eleventh of June.

The fate of these spectacular quadruped visitors to our Island—with one rumored exception the only wild deer known to have been on Staten Island since colonial times, or perhaps even since the days of the Indians—reflects no credit on humans. The Staten Island Advance for October 13, 1941, contains an account of the death of a "young buck deer" at New Dorp on October 12. According to this account the unfortunate animal was literally chased to its death by men and boys, the deer in its extremity plunging into the waters of the bay, where it drowned. The report states further that the carcass, after being dressed, was turned over to a local hospital for consumption in accordance with Conservation Department practice.

There are unconfirmed reports that a doe deer was killed with shot gun in the vicinity of Sandy Ground (Rossville district) at about the same time or a little later.

At this writing (July, 1942) it appears that the report concerning four deer must have been erroneous because no trace of any animals has been found during approximately eight months past. The conclusion is that only the doe and her fawn were present; that it was the fawn that was killed at New Dorp and the fawn's mother at Sandy Ground. The writer is assured by Mr. Walter Emrich who took the only photographs to be made of the deer, that by September the fawn was "almost as large as its mother" and had lost its spots.



(Photograph by Walter Emrich, July, 1941)

Wild Doe, Virginia Deer, with Fawn on Elmer T. Butler Estate, Staten Island.

An Unusually Large Red-Backed Salamander

WILLIAM T. DAVIS

A very large Red-Backed Salamander, *Plethodon cinereus* (Green) 122 millimeters in length, was found by John Goetz on January 2, 1942, and presented to the writer the same day. It was on a wall, the top of which is bordered by grass, at Stuyvesant Place nearly opposite to Schuyler Street, St. George, Staten Island. It had probably been dislodged by the exceptionally heavy rain of the early morning of January 2nd. The salamander was alive when found, but not active and died during the night of January 2-3rd.

This common species of salamander has previously been found in several places near St. George, but the extremely large size of the present red-backed example makes it worthy of record.

In Jordon's *Manual of the Vertebrate Animals of the North-eastern United States*, three and one half inches or about 68 millimeters, is given as the usual length, and Cope records, "From snout to end of tail 3.52 inches." Dr. Sherman C. Bishop in the recently published *Salamanders of New York*, records a specimen 91 millimeters in length. from Rochester. In 1842, in the *Zoology of New York*, James E. DeKay, records the length of the Red-backed Salamander as three to three and one half inches, and states that it is in places very numerous and the species widely distributed. He mentions the two color forms of the species, and states that it is one of the first salamanders to appear in the spring and that he had seen it as early as the middle of April. "It runs with great rapidity among the leaves in moist wooded districts and conceals itself under stones and decayed leaves." It sallies forth at night, and as it is a terrestrial salamander, its eggs are deposited under logs and like situations. In looking for insects in the forested portions of our Island, an entomologist in pulling apart decayed logs, will sometimes find the mother salamander guarding her half dozen or so precious eggs, but she as a rule is much less than 122 millimeters in length.

Snow Geese on Staten Island

HOWARD H. CLEAVES

Even in this year of 1942, with ample evidence of civilization's encroachments all about, Staten Island continues to reward richly the observer who persists in going afield. On the first day of May I was walking alone on Oakwood Beach, going toward Crooke's Point, when I noticed a number of Herring Gulls standing along the shore, a group of about a dozen being on one of the peat hummocks which characterize the easterly portion of the beach. When I drew closer to the hummock, as I walked on the black cinder road along the crest of the beach, I placed my binoculars to my eyes to take a more critical look at the birds and discovered to my amazement that eight of their number were not immature Herring Gulls but Snow Geese.

My only previous experience with the Snow Geese on Staten Island had been in about the year 1905, soon after my family had moved to the island and when I was almost too inexperienced in bird study to appreciate the incident. Our home was "at the beach" in Princes Bay, not a great distance from Lemon Creek. It was in May or early June, by my recollection, that I heard about a large white bird being shot, the carcass later being presented to me. The goose had lost one leg at the heel, and was therefore plainly a cripple prior to being killed. It was indeed a large bird, white with black wing tips, and I did not exactly know what to do with it. The weather being warm and the bird being too large for our small ice box, I finally buried the specimen after cutting off one wing which later was given to my newly found acquaintance, James P. Chapin, for his collection.

Thirty-seven years is a long time, yet during all of that period I never saw another Snow Goose on Staten Island, although it is of record that one immature bird of this species was observed at Oakwood Beach, Staten Island, on April 17, 1926, by either John F. or Richard Kuerzi.

As I watched the eight geese on the hummock they fed by snipping off fresh green blades of the salt grass (*Spartina* ?) which at that date stood only five or six inches high. Dr. William H. Wiegmann who came from Manhattan to see these birds a day or so later

reported having seen them pulling up the stolons or runners of the plants.

Two of the eight geese were more nearly white than the others and it is probably safe to conclude that all were non-breeders, else they would have departed for the north during the first half of April. Snow geese breed in Alaska, northern Greenland and elsewhere in the arctic regions. The six individuals showing less white were of a grayish coat, with noticeably darker gray on their backs. Several displayed a rusty wash of color on the cheeks and on the feathers of the neck.

These geese surprised me by their lack of fear, continuing to feed as I stood or walked in plain view not more than fifty yards from them on the occasion of our first meeting. On May 5th, when I took photographs of them, the birds allowed me to walk slowly to within about forty feet of them before taking to the water, then flying offshore a quarter of a mile and settling on the water again. On this second occasion the geese were discovered squatting high up on the sand beach near the western extremity of Crooke's Point, not feeding, but resting, some with heads down their backs apparently asleep. At no time did these individuals become vocal, although in migration the Snow Goose is reputed to be noisier than the Canada honker.

Our Snow Geese of Oakwood Beach were not seen again after May 5th, 1942, when Mr. George Wilmott shared the unusual experience with me of observing and photographing these rare visitors. The birds were also photographed by Mr. Carlton Beil on May 3, 1942. Later I was informed by Mr. Hercule Trudel, a member of the Park Department staff in Richmond Borough, that he had many times seen the group of eight Snow Geese in the course of his patrol work along the beach portion of the Marine Park area. Mr. Trudel stated that the birds first appeared toward the end of February and had been seen at intervals regularly afterwards. He remarked on their tameness, which may be accounted for in part by the fact that shooting is strictly forbidden in the park and the land posted against trespass. Birds respond to such conditions and pay no attention to trespass signs.

In North America there are two species of Snow Geese, the Greater and the Lesser, but since measurements vary greatly even within each species, from twenty-three to twenty-eight inches in



(Photograph by Howard H. Cleaves, May 5, 1942)



(Photograph by Carlton Beil, May 3, 1942)

SNOW GEESE AT OAKWOOD BEACH

length for the Lesser Snow Goose and from thirty to thirty-eight inches for the Greater, it can be seen that identification based on size, when the birds are seen in the field, is somewhat unsafe. However, the Lesser Snow Goose occurs for the most part in western North America, which makes it reasonably safe to assume that our Staten Island individuals have all been Greater Snow Geese, *Chen hyperborea atlantica* Kennard.

It is strange that more Snow Geese do not visit Staten Island because there are many reports of birds of this species having been observed all around us—up the Hudson River, at Boonton, New Jersey, on Long Island. As many as 5000 Snow Geese have been seen at one time near Fortescue in Cumberland County, southern New Jersey, and the birds are quite regular visitors at the Federal Migratory Wild Life Refuge at Bombay Hook on the opposite side of Delaware Bay in the state of Delaware.

Literature Relating to Staten Island*

ROSWELL S. COLES

The Earliest Volume of Staten Island Records, 1678-1813, prepared by the Historical Records Survey of the Work Projects Administration, New York, 1942. The careful transcription of this volume, long considered as Liber A of Staten Island records, and its publication by the Historical Records Survey is an event of great importance. These earliest records have not been available to the public except in part in Stillwell's *Miscellany* and the opportunity for students to have access to them in a scholarly and literal transcription is most welcome. Included in the volume is a foreword by Mr. Loring McMillen, Borough Historian, an historical sketch, bibliography, and above all a good, complete index. This volume is one of the series of the *Inventory of County Archives of New York City*.

The Waldenses in the New World, by George B. Watts, Duke University Press, 1941. This illustrated history of the followers of Peter Waldo, (d. 1217) their persecution and their emigration to the New World includes a resume of fact and fiction of the Waldenses on Staten Island. (pp. 13-16). Ira K. Morris and others have asserted that a group of Waldenses settled on Staten Island in 1658. Later historical research of Charles W. Leng, William T. Davis and Loring McMillen fails to show adequate proof of this settlement and among present day local historians the story is considered a myth. No new light is shed on our local problem by this volume.

The History of Staten Island and Public Schools, issued under the auspices of the Staten Island Teachers Association in connection with the Centennial of the New York Board of Education, 1842-1942. A mimeographed pamphlet containing two historical essays and a list of elementary schools with principals, as of 1935 and 1941. "Staten Island Schools of Olden Days" by Frank Hankinson, Assistant Superintendent of Schools (retired), describes the birth of the public school system in 1842 under our first county superin-

* These publications are available in the library of the Institute.

tendent of schools, Harmon B. Cropsey, and contains some account of our earlier Island schools. "From the Hickory Rod to Progressive Education in Staten Island Schools" by Vernon B. Hampton is an account in four parts of the history of public education on Staten Island: Forgotten History; Staten Island Grows Up, 1866; Consolidation with the Greater City; and Modern Progress.

Prisoners of Hope. Report on a Mission, by Howard L. Brooks, L. B. Fischer Pub. Co., New York, 1942. This is the report of the minister of the Unitarian Church of Staten Island on France as he found it during his six months' work as a member of the Unitarian Service Committee. It is a report of concentration camps, of underground newspapers, of the "little people" who are the French spirit, and of the work of relief which was, and still is, being attempted in their behalf. *Prisoners of Hope* is dedicated to the Unitarian Church of Staten Island "which has been my first loyalty these last six years, and which has rewarded me with patience, understanding, and affection such as few men are privileged to have."

Byways to Adventure. A guide to Nature Hobbies, by Edwin Way Teale, Dodd, Mead & Co., New York, 1942. A popular survey of the fun and value to be obtained from hobbies relating to Natural History, made the more interesting by Mr. Teale's fine nature photographs. In Chapter V, p. 56 called "Journeys to Lilliput" a section is devoted to Charles W. Leng and Wm. T. Davis and their contributions to entomology.

At the Gateway to Liberty. Published by the Staten Island Chamber of Commerce, 1941. This pamphlet of 32 pages and index is not so much the usual promotive literature as a handbook of carefully authenticated facts about Staten Island . . . "in an effort to place a representative amount of information about the Island at the fingertips of Staten Islanders themselves and of out-of-town residents, businessmen and public officials who want to know the 'what, where, when, why, who and how' of Staten Island, the Borough of Richmond." This booklet is well illustrated with photographs, drawings and a map.

Staten Island Historian. Published quarterly by the Staten Island Historical Society, Richmond, Staten Island. Confining itself

to Staten Island History, this publication presents illustrated information of special interest to Staten Islanders. Some articles like "Staten Island Architecture" by Loring McMillen, and the "Civil War Letters of Capt. Charles W. Kennedy" are of general interest.

Bulletin of the Brooklyn Entomological Society, Vol. XXXVII, No. 1, pp. 1-3, "The Seventeen-Year Cicada, Brood XV," by William T. Davis. This entomological paper by Mr. Davis is of interest to Staten Island as cicadas found here in 1890 and 1907 helped to establish the true identity of Brood XV. Dr. J. A. Lintner reported 17-year cicadas appearing at Tivoli, N. Y. as "an entomological enigma." Seventeen-year cicadas were found on Staten Island by Mr. Davis and others in 1890, 1907, 1924 and 1941, so that the "doubts expressed by Dr. Lintner in 1890 have been largely settled."

Geological Review, issued by the Geological Society of City College, New York. Vol. II, No. 1, Dec., 1941 of this mimeographed periodical contains an article "Tin on Staten Island," by Richard P. Isaacs. Tin was reported on Staten Island as early as 1670 but presumably the not uncommon chromite was mistaken for the tin ore, cassiterite. In the same way magnetite was probably mistaken for a zinc ore reported as "calamine stone." There seems little evidence to support the statement that tin occurred on Staten Island. A brief account of iron ore deposits is also included in the article.

Archaeology of New Jersey, Vol. I, by Dorothy Cross, published by the Archaeological Society of New Jersey and the New Jersey State Museum and prepared with the assistance of the Work Projects Administration, Trenton, 1941. While direct references to Staten Island are rare, the similarity of Indian cultures makes this volume of value to Staten Islanders interested in local archaeology. The geological section also applies generally to Staten Island. Well illustrated and indexed.

Bibliography of the Botany of New York State 1751-1940. Part 1. New York State Museum Bulletin 328, January 1942. Part 2. New York State Museum Bulletin 329, June 1942. (Pagination continuous.) In this work appears a chronological

listing of published botanical papers relating to Staten Island. The main list is on pages 143 to 150, under the heading Richmond County (Staten Island) and a supplementary list is on pages 200 to 202. The first paper listed refers to Agriculture of Richmond County in 1843-44, published in the year 1844, by Samuel Akerly. Listings continue through 1940. The activities of the Staten Island Institute of Arts and Sciences and its two earlier Associations, are reflected in the listed writings of Dr. N. L. Britton, Wm. T. Davis, C. A. Hollick and C. W. Leng, as well as Elizabeth G. Britton, Philip Dowell, C. L. Pollard, Howard H. Cleaves and others of our present or former members.

Natural History Records from the Meetings of the Staten Island Nature Club¹

WILLIAM T. DAVIS

The meeting of September 27, 1941, was held in the Public Museum.

Mr. Howard H. Cleaves told of the presence of wild deer on Staten Island, and suggested that probably they are the first to be recorded from here since colonial times.

Mr. Cleaves also told of seeing a starling obtaining a drink of water in a resourceful manner by perching on an insulated electric cable from the under surface of which were suspended drops of water spaced evenly about two inches apart. The drought of the past several months had put water at a premium in the neighborhood; the moisture hanging in drops from the cable got there by condensation from the atmosphere during the previous night. The bird reached under the cable drank one drop of water, then moved along sidewise to a point directly above the next drop, and so on down the gently sloping cable for quite a distance.

Mr. Wm. T. Davis stated that Dr. Walter Granger of the American Museum of Natural History, well known paleontologist, died September 7, 1941. As a young man he often visited the Island and spent some time investigating its natural history. The *Florida Entomologist*, for July, 1941, contained a list of 120 papers by Dr. Arthur Paul Jacot who was born on Staten Island, March 28, 1890, and died in New Haven, Connecticut, March 24, 1939. He was the author of "Marine Mollusca of Staten Island, N. Y."; "Some Marine Mollusca about N. Y. City," and "Notes on Marine Mollusca about N. Y. City." He also reported on "An Intertidal Moss Mite in America," found at several localities, among them the beach at Eltingville, Staten Island. This paper appeared in the *Journal*, N. Y. Entomological Society, September, 1934.

Attention was also called to the article on the work of Mr. P. L. Sperr of 1461 Bay St., Fort Wadsworth, in the May-June 1941 number of the *Defender Trade Bulletin*. Four of his photographs are reproduced. "Wild Life on Staten Island," by Howard Cleaves,

¹ These records have been compiled largely from the minutes of the club, John Koestner and Mrs. Karl O. Nesslinger, secretaries.

was published during the summer by the Richmond County Federal Savings and Loan Association in the "Richmond Beacon." Several wild life photographs are reproduced, among them the famous Osprey or Fish Hawk picture taken at Wolfe's Pond, Princes Bay in April, 1914.

A very useful pamphlet of 32 pages and index, on Staten Island, The Borough of Richmond, New York City, "At the Gateway to Liberty," was published during the summer of 1941, by the Staten Island Chamber of Commerce. It contains many original illustrations of public buildings, museums, old houses, as well as a map of the Island drawn by Mr. Henry Endress. It is a valuable outline history of our Island and gives authenticated items of great interest.

A separate of 4 pages from *Torreya*, May-June, 1941 number, on "Growing *Cladophora* in the Laboratory," by the president of the Nature Club, Mr. I. C. G. Cooper, was shown. Mr. Cooper being present later gave further information on *Cladophora* and the apparatus illustrated in his article.

Mr. Davis stated that he was pleased to report a considerable number of Monarch butterflies this Fall, seen in several parts of the Island. For a few years past they have not been common, but on the occasion of the September meeting of the Bird Club at the home of Dr. and Mrs. Strauss, 220 Prospect Avenue, New Brighton, a great many Monarch butterflies were observed in the late afternoon settling in the trees. On September 21, the large yellow butterfly, *Catopsilia eubule*, was seen at Page Avenue and Hylan Boulevard. Years ago this butterfly often visited Staten Island, usually about mid-September, and sometimes in numbers. It has been uncommon of recent years.

A very tall Rag-weed, *Ambrosia trifida*, 10 feet 4 inches, from a lane near the Museum, was shown. During the past hot and humid summer, wayside weeds flourished, and many specimens attained unusual proportions. On August 16, 1927, an *Ambrosia trifida* 14 feet 2 inches tall was found at Wingina, Virginia, on the banks of the James river. Record plants have been known to attain the height of 17 feet. In the Museum Bulletin for October 1940 there is an account of our two Staten Island Ragweeds; of their economic importance in Virginia, where they are collected as fodder for hogs and horses.

Mr. Davis called attention to the page of "Un-Natural History," in the July number of *Popular Science Monthly*, where it is stated that "The male Box Turtle has red eyes, the female yellow ones." He stated that he had first called attention to the "Color of the Eyes as a Sexual Characteristic in *Cistudo carolina*" in *The American Naturalist*, Vol. XXI, p. 88, January, 1887. While the mature males usually have red eyes, often very bright in color, the iris in the females is much darker, usually a reddish brown or dark gray, and not yellow as stated above. On May 17, 1908, he, Alanson Skinner and several members of the Wort family, found 18 male, 11 female and 4 immature Box turtles in the fields and along the hedge-rows near Woodrow, Staten Island. Most of the Box turtles have been killed by brush fires and automobiles, and during the past summer Mr. Davis had found but a single specimen.

The following extracts from a letter dated July 4, 1941, from Mr. Roy Latham of Orient, Long Island, were read. "For several weeks I have been going to write to you about the 17-year Cicada which occurred last year, 1940, South of Calverton and around Bald Hill. As I wrote to you last year, I was unable to visit the section where they were found in 1923, but I visited it during May of this year and discovered great numbers of casts on the ground all around Bald Hill and northward through the pine and shrub oak country toward Calverton. The evidence reached to at least two miles southwesterly from Bald Hill to what is known as Hunters' Garden. Apparently there is a widely extended colony in that region. I asked a friend who lives at Eastport, and who is familiar with the insect, if the cicadas were heard there last summer, and I was told that the woods were full of them south of Bald Hill and around Hunters' Garden. I have heard none this year.

"I have had good moth collecting at my lights during the hot, humid nights this season and have made several new records for my Long Island List. On June 27 I took a specimen of *Autographa ampla*, which I have not taken before—the State List gives no records for Long Island. A Manatee was caught in a fish trap in the Sound at Southold last week—rather an unusual record for this Florida species. We had the Herring Gull nesting in Orient again this year; just one pair which brought off two young. Our Common Tern colony does not seem to be able to rear young. There are about 250 pairs here this year, but not a young can be found

more than a day old, and but few eggs hatch. Something with fur or feathers carry the eggs away before they hatch or get the young soon after they leave the eggs. Ants destroy many pecked eggs and some of the newly hatched young, but ants are not the main reason for the destruction here. I found three nests of the Roseate Terns last week. The Common Terns are ever dashing at the Roseates trying to drive them from the vicinity. I don't think the Roseates eat the eggs of the Common Terns, but the latter do not want them about for some reason. Our Night Heron colony is doing well with nearly 300 pairs.

"Potato digging started in Orient on July first, which is the shortest period on record between planting and digging in Orient. Planting on April 2—digging on July first. It was due to unbeaten soil by storms and to warm weather."

At the December 28, 1940, meeting of the Nature Club, a number of eggs laid by *Ravenia*, the tame crow owned by Mr. Arthur Martens of 37 Lawrence Avenue, West New Brighton, were shown. She commenced to lay when fourteen years old, namely in 1939, and has laid eggs for the past three years. This year Mr. Martens reported on July 8 that so far she had laid ten eggs in 1941, and during the past three years a total of twenty-seven.

Miss Emily O. Long showed specimens of *Linaria vulgaris*, the common Toad flax taken from a lot near Cebra Ave. and Victory Boulevard. Some of the flowers were strikingly different from the normal ones, showing a radial symmetry throughout; 5 equal corolla lobes reflexed from a closed throat, 5 spurs (nectaries), and 5 stamens of the same size, whereas the typical *Linaria* flower has an irregular corolla, only one spur, and 4 didynamous stamens, that is 2 long and 2 short. The cause of this phenomenon was unknown to the exhibitor.

Miss L. E. Biglow reported that a swarm of honey bees made their home in her house, 44 Van Duzer St., Tompkinsville.

Miss Bessie Blauvelt showed a large and remarkably fasciated asparagus plant from the garden of Mrs. Fred Decker of New Springville. The fasciated portion of the stem was over an inch and one half broad and five feet in length. Miss Blauvelt also reported that the English ivy growing on St. Mary's Church, West New Brighton, produced aborescent branches bearing flowers and fruit.

Mr. John Koestner said that in his opinion the Black Widow Spider is becoming more plentiful on the Island.

Dr. Ralph W. Nauss reported on the habits of the beautiful Garden Spider, *Argiope trifasciata*, which has a metallic silvery body. He had fed the spider bits of meat taken from the heart of a chicken, and described the spinning of the web and the egg sac.

Mr. Roswell S. Coles showed a large specimen of fibrous serpentine of fine quality obtained from a recent excavation on the side of Ward's Hill, Tompkinsville. This fibrous serpentine was formerly mined as asbestos on Pavilion and Ward's hill, and in the *Proceedings of the Staten Island Institute of Arts and Sciences*, Vol. 1, pp. 87-88 there is a copy of a notice which appeared in the N. Y. Sun for April 1, 1920, of the sentence of Broughton Brandenburg, promoter, for selling stock in a Staten Island asbestos mine, which he also claimed yielded rubies and emeralds.

Mr. Nathaniel Rouse spoke of the Aurora of the evening of September 18, 1941 which was noticed by many persons. At times it was a beautiful display.

The meeting of October 25, 1941, was held in the Public Museum.

Mr. Karl O. Nesslinger read a letter received from Ward's Natural Science Establishment relative to a considerable number of 17-year Cicada nymphs which he had recently dug up in his garden, 960 Fingerboard Road, and sent to them as requested. They requested that Mr. Nesslinger send them at least 100 more. Mr. Nesslinger also reported upon a peat-bog fire near his home, and showed some photographs illustrating the considerable destruction of trees by the fires.

Several members mentioned the great number of winged Aphids seen on and about October 27, and Mr. Joseph F. Burke reported seeing a Red-breasted Nuthatch in the willow tree in front of the Museum.

Mr. William T. Davis exhibited a considerable number of shed skins of small King Crabs about seven-eighths of an inch in diameter and smaller, from the inner shore of Crooke's Point, Staten Island. They were found August 3, 1941, by Mrs. James P. Chapin, Dr. Chapin and Mr. Davis on the muddy flats of the beach where the mature crabs are occasionally seen mating and laying eggs in early summer. The very great number of the cast skins of the small crabs was of particular interest. Cast skins of

the larger crabs are often found on the beach in mid-summer, but in lesser numbers.

Mr. Davis showed several of the 17-year Cicada nymphs recently dug up in his garden by Mr. K. O. Nesslinger. They were found October 13, 1941, and probably belong to Brood 2, which will appear in 1945. Other nymphs found by Mr. Nesslinger in 1940 were also exhibited.

Mr. Nesslinger had brought to the meeting a living 17-year Cicada nymph in its clay burrow, which he exhibited. With the larger nymphs there is an occasional very much smaller one, evidently belonging to a different brood.

Reference was made to the communication by Mr. Howard Cleaves at the last meeting concerning Staten Island deer, the doe and fawn seen by him, Mr. Davis and numerous other persons on the Butler estate at Richmond Valley, Staten Island, and attention was called to an article in the *Staten Island Advance* of October 13, 1941, headed: "Deer Chased Through Streets, Died in Surf at New Dorp Beach." The body of the buck was recovered and sent to St. Vincent's Hospital. In the *Advance* of October 14, it is stated: "Surely the human decency which causes so many people elsewhere—youths as well as adults—to leave stray animals strictly to their own resources should have been present at least in some degree among the boys at New Dorp and New Dorp Beach."

The meeting of November 22, 1941 was held in the Public Museum.

Mr. Cooper reported on the Armistice Day, November 11, walk from the Public Museum to Richmond, where the Lighthouse Restaurant was visited. In the afternoon there was a shorter walk. The Museum Bulletin for December, 1941, gives a more detailed account and records the names of the persons who participated.

Mr. Davis stated that he had seen two Sulphur butterflies, *Colias curytheme* flying about near the docks at Tompkinsville on November 15, and on the 17th another of the same species, and possibly one of those seen on the 15th. In the "List of the Macrolepidoptera of Staten Island, New York, published in 1909, but a single individual of this southern form, seen near Richmond, October 20, 1900, was recorded. By 1929 the species had become quite plentiful and is now well established. On the 19th of November, a warm

day, a Buckeye butterfly, *Junonia coenia*, was observed about some flowers in Mr. Ballach's garden on Richmond Hill, not far from the light house. It has previously been found in late Autumn on the Island, on November 2, 1882, and November 14, 1897. While adults of this species are known to hibernate in the South, it is not certain how far north this habit extends, and Buckeye butterflies found flying about in mild weather in November on the Island, may perish a little later from the cold.

In a recent examination of the many bushes of the Smooth Sumach growing near the docks at Tompkinsville, not a single head of seeds could be found. Last year there were a few normal heads, but this year only large clusters of tightly curled leaves were produced. Such heads of leaves occurred to some extent in 1940. While fasciated stems were found in 1940 and again this year on some bushes, it was evident that the heads of curled leaves were not caused by the rapid growth of the bushes following injury by spring fires as sometimes happens. No such fires took place this year.

A 17-year Cicada nymph, 20 millimeters in length, found by Mr. Joseph F. Burke on November 20, 1941, at the entrance to a small hole in the ground not far from the side of Rockland Avenue near Meisner Avenue, was shown. It was supposed to belong to Brood 2, to appear in 1945, and was of the same size as the majority of the nymphs from Mr. Nesslinger's garden shown at the October meeting.

Mr. Davis showed the living female Mud-turtle, *Kinosternon bauri* collected 28 years ago, on September 7, 1913, at South Jacksonville, Florida, and since kept by him in a large bowl at 146 Stuyvestant Place. She was fully grown when found, and during her long captivity has been fed bits of meat. A few insects may also have fallen into the bowl. This turtle is noticed in the Proceedings of the Nature Club for September 24, 1938, together with the allied species *Kinosternon subrubrum*, which is native to the Island. She received a wider notice by having her picture published in Clifford H. Pope's *Turtles of the United States and Canada*, 1939, where also her long life in captivity is recorded.

Mr. I. C. G. Cooper showed a series of Kodachrome photographs taken during a trip to Niagara Falls in company with Mrs. Cooper—it was their wedding anniversary.

The meeting of December 27, 1941, was held in the Public Museum.

Mr. Carlton Beil told of the Bird Census which he and five other observers had taken earlier in the day. Forty six species were seen, being one short of the highest number seen in recent years. Unusual birds observed were Hooded Mergansers and Purple and Bronze Grackles. Due to the open winter no large flocks were seen, except a flock of about 30 Gold Finches, and the usual sea and shore birds.

Miss Emily O. Long reported seeing three birds on Oakwood Beach on October 7 which she identified as Horned Larks.

Mr. Wm. T. Davis showed a copy of the recently published volume *The Covered Bridge*, by Herbert Wheaton Congdon, a former Staten Islander, and Edward Homer Boyce. This is an account of the development of the old bridges of Vermont, of which 102 are illustrated. When Mr. Congdon and his brother Ernest resided on Staten Island they contributed to the early *Proceedings of the Natural Science Association*.

The Plant-Bugs or Miridae of Illinois, by Dr. Harry H. Knight, and *Notes on Some North and Middle American Danaid Butterflies* by Austin H. Clark, were shown. As Dr. Knight gives the general distribution in the United States of the species mentioned by him, his fine taxonomic paper of 234 pages is of service to eastern entomologists, and Dr. Clark's paper deals with the ever interesting Monarch or Milkweed Butterfly and its next of kin.

Mr. Davis called attention to the recently introduced so called Ragweed and Poison Ivy bill. Such bills are introduced without their sponsors knowing much about the actual conditions. There are parts of Staten Island that are largely covered with Poison Ivy, much of it on City property. The City could hardly expect a property owner to undertake the extermination of Poison Ivy on some of the land about Rossville, or Tottenville for instance, while land similarly covered is owned by the City. It is doubtful if in some of the areas, the ivy could be exterminated without killing all the other species of plants including most of the trees. The men employed to do such jobs rarely recognize the species of plants, and do more harm than good. If individuals affected by Poison Ivy would learn to know the species in its several forms, it would

not need extermination, but would be, to most, an interesting and beautiful way-side plant.

Mr. Davis showed a Short-tailed Shrew, and stated that it had been captured by Mr. Harrison Johnson in a rat-trap on the ground floor of an out building at his home near Gifford's Lane. Mr. Davis stated that on November 28, 1941, he had seen a *Colias philodice* butterfly while walking along the old Mill Road near Richmond. This is a late date for the butterfly to be flying about on Staten Island, but on November 21, 1886, he had seen a considerable number, and on December 6, 1891, a single individual.

An interesting letter from Mr. Wm. F. Rapp Jr., of Highland Park, New Jersey, was read, giving some results of his study of the Kettle Topography of the Terminal Moraine near Chatham, New Jersey. He also stated that on the 22nd of November, he and Mr. Edward Green, had seen 6 Fox Sparrows along the Passaic River at Chatham, a late date, and also a Northern Pileated Woodpecker, a worthwhile record for the locality.

Attention was called to the notice of the late Adolph W. Callisen in the October, 1940, number of the Staten Island Historian, and to the reprint of his "The Glorious Days of Yore," in the January-March, 1941, number. Mr. Davis showed the original of the last mentioned, together with the other "Uncle Toby Books" usually shown at the December meetings of the past.

The meeting of the consolidated Bird and Nature Clubs under the name of the *Staten Island Bird and Nature Club*, was held on January 24, 1942, in the Public Museum.

Attention was called to the newspaper report of a Raven having been seen recently in the Bronx, and another at East Hampton, Long Island. For a number of years Ravens were occasionally seen in Southern New Jersey, but apparently they have ceased visiting their old haunts.

In his *Catalogue of Birds Observed on New York, Long and Staten Islands, and the Adjacent Parts of New Jersey*, 1866, George N. Lawrence, states that "The Raven is rare in this vicinity, although quite common on the New Jersey coast. I was informed by Mr. Akhurst that a fine specimen, one of a pair shot on Long Island, and which passed through his hands, is now in the museum of the L. I. Historical Society."

Mr. Wm. T. Davis showed a very large Red-backed Salamander, *Plethodon cinereus* Green, 122 millimeters, or four and three-sixteenths inches in length. An account of this very large example of the species appears elsewhere in this number of the *Proceedings*.

Mr. Edwin A. Rundlett spoke of the native chestnut trees, of which many small examples are still to be found in our wood-land, and of the efforts of Dr. Arthur H. Graves, the Brooklyn Botanic Garden, to save the species from the blight, and of the planting on our Island of the blight-resisting Asiatic chestnut.

Many Christmas cards are both interesting from a natural history as well as an artistic point of view, and a considerable collection made during the recent holiday season was shown.

The February 28, 1942, meeting of the Staten Island Bird and Nature Club was held in the Museum.

Officers elected were: President, Mr. Howard H. Cleaves; Vice-President, Miss Emilie O. Long; Recording Secretary, Mrs. Karl Nesslinger; Field Secretary, Carlton Beil; Treasurer, Mr. Karl Nesslinger.

Mr. Wm. T. Davis exhibited a color sketch made on August 3, 1891, of the old Lake Tide Mill on Mill Creek, Great Kills, by W. R. Miller, father of Captain Thomas I. Miller of 217 Safford Ave., Annadale, Staten Island. The sketch was purchased from a dealer by Mr. Davis for the Institute, and is now on exhibition in the Museum.

Mr. Davis also showed a number of cicadas received from the University of Kansas. Four hundred and eight specimens, representing 37 species and varieties were included, nearly all of which were collected by the Biological Expedition conducted by Prof. Raymond H. Beamer to Texas, New Mexico, Arizona and Southern California in the summer of 1941. A male, possibly representing a black form of *Diceroprocta semicincta* was taken in the Chiricahua Mts., Arizona, and is to be described as variety *nigricans*. It also shows some structural differences from *semicincta*.

Circular 554, U. S. Dept. of Agriculture on "Honey and Pollen Plants of the United States" was shown, and it was pointed out that our Poison ivy and other species of *Rhus* are considered valuable honey producing flowers. Any doubt about the matter can be settled on our Island and it will be found, for instance, that

Rhus copallina, when in flower, is eagerly visited by great numbers of honey bees.

Mr. Roswell S. Coles reported on a correspondence with Dr. Graves of the Brooklyn Botanic Garden and said that we could have seedlings of the imported blight-resisting chestnut trees for planting.

Mr. W. L. McCracken pointed out a plot of land near the Princes Bay R.R. Station which would be suitable for a playground.

The presence of a Sharp-shinned Hawk at Grasmere, was reported by Mr. John Koestner and Mrs. Karl Nesslinger.

Mr. Carlton Beil reported hearing the full song of a Song Sparrow, and also mentioned the coming total eclipse of the moon on Monday, March 2.

Mr. Howard H. Cleaves reported that in his neighborhood at Pleasant Plains, a Chewink was wintering over with some White-throated Sparrows. He also showed an excellent water color painting by Mrs. Cleaves, of a Night Heron, as it appeared in one of his expeditions while making night photographs in Florida.

The March 28, 1942, meeting of the Staten Island Bird and Nature Club was held in the Museum.

Mr. Wm. T. Davis made a further report on the old Lake Mill at Great Kill, and showed photographs taken recently by Mr. H. S. Thompson Jr. of the Staten Island Camera Club of the 1891 color sketch of the mill made by W. R. Miller.

A separate from *The Am. Midland Naturalist*, for November, 1941, was shown. It gave an interesting account of the grasshopper *Melanoplus impudicus* by Mr. Ashley B. Gurney, who finds the species widely distributed but localized according to favorable ecological conditions. He mentions visiting the Museum of the Staten Island Institute of Arts and Sciences, and examining Mr. Davis' collection containing specimens of *impudicus* from Coram, Selden, Deep Pond and Long Pond in Long Island, the most northeastern localities so far recorded (See *Bulletin*, Brooklyn Entomological Society, 1921, p. 139 and List of the Insects of New York).

Mr. Davis also called attention to the *Directory of Natural Science Organizations of Northern New Jersey*, issued by the Newark Museum, November, 1941, where 28 organizations so interested are mentioned.

Professor Varon gave a brief discourse upon the universal laws of Nature, where nothing is wasted. He spoke on the similarity of forces which made Cicadas, and those which made cathedrals, and showed several charcoal drawings of beautiful cathedral arches to illustrate that intelligence and beauty go together.

Mr. Carlton Beil exhibited two publications: one, the *Geological Review* of the Geological Society of City College, containing the "Story of Tin on Staten Island," written by Richard P. Isaacs, dealing with references to the subject found in early books as far back as 1680. The other exhibit was a copy of: *Archaeology of New Jersey*, 1941, describing the proper method of digging for Indian relics and making references to digging on Staten Island.

Mr. John Koestner exhibited a fine hand-drawn chart which he had just completed for the Museum, as an exhibit of "Mosquitoes on Staten Island." He explained that there are about 35 different species found in near-by New Jersey, many of which occur or have occurred on Staten Island. The chart showed enlarged drawings of the mosquito *Anopheles punctipennis*, and its malarial parasite, and explained the differences between *Anopheles* and *Culex pipiens* the "House mosquito."

Mr. Carlton Beil reported on the walk of the Club, March 14, 1942, ending at the Britton Cottage on New Dorp Lane. It was a cold day with a drizzling rain, and but one Herring gull was seen on the beach. It became evident that even the birds had sought shelter, so the walkers turned back to the Cottage where twenty-two persons gathered about the fire of drift wood in the eight foot fireplace in the old kitchen, and partook of doughnuts and coffee while Mr. Cleaves talked on the Birds of Spring illustrated by some recorded bird songs and colored pictures projected on the white plaster walls of the room.

The April 25, 1942, meeting of the Staten Island Bird and Nature Club was held in the Museum.

Mr. Wm. T. Davis called attention to the account in the *N. Y. Sun* of April 2, 1942, of the Harbor Seal caught in a fish net off Sandy Hook, New Jersey, and now in the Bronx Zoo. He stated that he had seen seals in the inner bay, particularly in 1884, as recorded in the *Proceedings of the Natural Science Association*, March 8, 1884. They have also been recorded in 1925, 1935 (Pro. Staten Island Inst. of Arts and Sciences, Vol. VIII, p. 34), 1936,

and 1939. In the *Advance* for January 28, 1939, a "South Shore Resident" lamented the shooting of the friendly seal, "I wonder if this person had realized that for the past month we of the South Shore had been watching this little stranger from the North, lolling on the rocks, preening himself and becoming quite tame. Raritan Bay is my front yard and his favorite resting place was on a huge rock a short distance from my dock. No one attempted to molest him and he attracted folks for miles around. I feel Sunday's slaughter was very much uncalled for."

Mr. Davis also pointed out that according to the *N. Y. Sun* of April 8 no freezing temperature had been experienced at the New York Metropolitan Observatory in Central Park during the month of March, the first time this has happened in 74 years. The month as a whole was about average as to weather, with a slight increase of sooty atmospheric impurity over March, 1941.

Mr. Davis showed a jar containing a living colony of very small and shining beetles, *Gibbium scotias*, that he had maintained for a number of years. The original stock of several beetles had been brought to the Museum for identification, and had since been fed on bits of dried meat. They will also make holes in dried leaves etc., and may possibly eat some vegetable matter. He had found the species in the N. Y. Produce Exchange building in New York City in the years 1907, 1908, 1909 and 1910, from March to September. The allied beetle, *Mezium americanum* was also found in the N. Y. Produce Exchange building in April and November, 1908, as recorded in the *Journal*, N. Y. Entomological Society, Vol. XVII, p. 47, 1909.

A crushed specimen of the large and beneficial imported beetle, *Carabus nemoralis*, was shown. It had been found on April 20, 1942, on the sidewalk in front of 146 Stuyvesant Place, where other specimens have occasionally been seen. It was first recorded from the Island in the *Proceedings of the Staten Island Assn. of Arts and Sciences*, Vol. V, p. 92, May 1915, where also a short account of the introduction of the species in eastern North America is given.

Under date of March 25, 1942, Mr. Roy Latham of Orient, Long Island, wrote as follows, "It has been a backward spring, and the early birds are slow in arriving. On the 13th I saw 13 Bluebirds. The Osprey first showed up on the 19th. Pipits on March 20th was early for them, but we sometimes see them wintering here.

Snow Owl was seen until March 21 and on the 27 I saw a Whistling Swan. A few Canadian geese are coming in to the rye fields to feed; yesterday 14 were within a hundred yards of our barn feeding.

"Late in December I excavated an Indian grave on Shelter Island which had deposited with it two bone needles, four bone awls, and 776 *Marginella* shell beads. These trade beads are shells from the South as this species does not occur on the east coast north of North Carolina. These shells are common with burials in many localities, but they are the first we have recorded here."

Mr. Davis showed a bottle containing chips of the red heart-wood of a red cedar, a species at one time common on the Island, but now rapidly decreasing toward extinction in the wild state. The chips were from a felled tree found near Richmond, and were placed in the bottle, December 11, 1920. The well known pleasant odor still emanated from the bottle with the removal of the cork.

Mr. George B. Wilmott exhibited an adult Spotted Salamander, which he had caught at Alpine, N. J., together with some newly hatched larvae which he will release on Staten Island.

Mr. John Koestner reported hearing the song of the Brown Thrasher for the first time this year on the day of the meeting—April 25.

Mr. Carlton Beil reported on the April 11 walk of the Bird and Nature Club, from the corner of Altamont Avenue and Richmond Road to the vicinity of Flagg's Pond. On the return the home of Mrs. William D. Spear, 61 St. Stephen's Place, was visited, where refreshments were served. Eggs of the Wood Frog were noted in a small pool near the Boy Scout Short Term Camp, and a Red Bat asleep in a bush a few feet from the ground was discovered by Miss Bessie Blauvelt. This is rather an early date for the occurrence of this migratory bat on the Island, and its resemblance to a large cocoon as it hung upside down on a leafless branch, was of interest. It did not try to fly when disturbed, though the entire party crowded around for a closer inspection and a group of horsemen rode past on the path only a few feet distant.

The May 22, 1942 meeting of the Staten Island Bird and Nature Club was held in the Museum.

Mr. Carlton Beil announced that Mr. Howard H. Cleaves had discovered eight Snow Geese on Oakwood Beach, during the first

week of May, a very unusual sight as the only previous record for these geese was a report from 1905 that a crippled one was collected at Lemon Creek. Mr. Beil showed an excellent photograph of the 8 geese which he had taken. He also reported a Red Backed Sand Piper seen May 17, 1942. Mr. Cleaves had observed a Caspian Tern associated with the Snow Geese, a male Wood duck at a small pond near Huguenot, and after three years, Bobolinks again breeding in the Mt. Loretto fields at Pleasant Plains.

Mr. Beil gave a report from W. H. Lea, Assistant District Commissioner of the Boy Scouts of America, that on April 18, 1942, a Cardinal's nest was found in a dense growth of honeysuckle on high ground about one half mile north of Ward's Point, Tottenville. The nest contained three eggs, the mother bird being observed leaving the nest and returning after the inspection was made.

Mrs. A. A. Rottmann told of a Green Frog, long a resident of her greenhouse, that had become very tame and responds when Mr. Rottmann talks to him while working in the house. She also stated that a Chipping Sparrow had found its way into the greenhouse, and not being able to escape had laid an egg in a flower pot. Later the bird was liberated.

Mr. Wm. T. Davis stated that Dr. Raymond L. Ditmars had died in his 66th year on May 12, 1942, and gave an account of his visit to Dr. Ditmars boyhood collection of living reptiles in his Brooklyn home. He exhibited a copy of Dr. Ditmars Reptile Book, published in 1907 by Doubleday, Page and Co., as one of the series of useful Nature Books. Mr. Davis also mentioned that Dr. Laurence Snyder, a one-time Staten Islander, had succeeded Dr. Raymond C. Osburn (retired) as head of the Ohio University's Department of Zoology, and read a letter from Dr. Snyder's mother, Mrs. DeWitt C. Snyder.

Mr. Davis exhibited an immature specimen of the Fresh Water Shrimp, *Gammarus fasciatus* Say, found by Mr. Howard H. Cleaves in a drain in the cellar of his home at Princes Bay. In the *Crustacea of New Jersey*, Dr. Henry W. Fowler reported that he had "examined a number of specimens from Staten Island, New York. These were obtained from the water-supply and in springs, by Mr. W. T. Davis. He also obtained it in Terrace Pond, New Jersey."

Mr. Davis also exhibited several very large, introduced fresh

water snails (*Ampullaria*), now quite plentiful among the many plants of *Cubomba*, long established in the pond adjoining the home of the late Miss Maud Morgan, 185 Bloomingdale Road, Pleasant Plains.

Miss Bessie Blauvelt showed a fine specimen of the fungus, *Pleuropus squamosus*, over 8 inches in diameter, from an American Elm at 1108 Rockland Avenue, New Springville, the home of Mr. and Mrs. Frederick Decker.

Mrs. Nesslinger exhibited a small branch of the introduced Paulonia tree in full bloom. It came from a young and vigorous seedling tree.

Miss Mathilde Weingartner announced that Baltimore Orioles had again returned to her neighborhood, and described how the Orioles had been observed feeding on Tent Caterpillars last year, holding the caterpillars down with one claw, and pulling the interior out with their beaks, leaving the empty skins behind. She had observed this many times in detail but not this year as there were fewer caterpillars.

Mrs. Tom Rudd of Clinton, N. Y., daughter of the late Rev. Ernest F. Neilson contributed through Mr. Cornelius G. Koffel, a copy of the *Reptiles of Staten Island and Northern New Jersey*. The list of 51 names printed on a single sheet was privately printed in 1881. Mr. Neilson was one of those who attended the organization meeting of the Natural Science Association of Staten Island, on November 12, 1881. He resided on the North East corner of Richmond Terrace and St. Peters Place, New Brighton in one of the so-called "Greek Temple" homes.

Mr. Davis stated that Tent Caterpillars had got underway this year about April 18, but that many wild cherry trees had escaped defoliation, and would bear an ample crop of fruit. He had heard the first Baltimore Oriole, this year on May 3, and seen the first *Papilio asterias* butterfly on May 5. In the *Proceedings of the Natural Science Association of Staten Island* for May 16, 1882, the first spring-time appearance on the Island of the Baltimore Oriole is noted for 19 different years.

ANNUAL REPORTS—AFFILIATED SOCIETIES

Aeolian Singers

ANNA L. ROYS

The Aeolian Singers have met each Thursday and have given six concerts on Staten Island during the year:

June 6, 1941, at the Chimes Theater, Port Richmond, in cooperation with the Staten Island Holy Name Glee Club.

November 1, 1941, at the induction services of Slosson Post, American Legion, held at the Staten Island Academy.

December 4, 1941, for servicemen, at the Staten Island Community Center.

February 24, 1942, for servicemen, at the Catholic Service Center.

April 15, 1942, benefit concert for the choir of the Reformed Church, Port Richmond.

June 12, 1942, benefit for the Staten Island Institute of Arts and Sciences, at the McKee Vocational High School.

During the year, Mary McIntyre, Violet Edson, Leo F. J. Bartinique and William Miller acted as soloists. Mr. Bartinique conducted and Jane DePuy accompanied. Officers were: Gertrude C. Cook, president; Mae Ruppert, vice-president; Stella Henz, treasurer; Jane Phillips, librarian; Mabel Oldham, recording secretary; Anna L. Roys, corresponding secretary; Ruth Dobblyn, publicity.

Staten Island Art Association

HELEN M. REDDY

The Sixth Annual Exhibition of work by members of the Staten Island Art Association was held in the Art Gallery from October 1, to November 14, 1941. Thirty-five members exhibited. The fall business meeting was held on October 18 and the Art Association sponsored the first Institute meeting of the 1941-42 season the same evening. Mr. Herbert T. Strong lectured on "Exploring the Magic World of Color," a fortunate combination of scientific material and artistic values, using ultra violet and polarized light.

During February Mr. Richard Kroth, first vice-president of the Association held a one man show in the gallery. On February 16 Mr. Kroth lectured on "Color Perspective" using his paintings to illustrate his method of achieving the third dimension through the use of color.

The spring meeting took place on May 18. Mr. Philip Kappel presented a lecture-demonstration on Dry Point technique. In addition to the making of a dry point plate for the audience Mr. Kappel showed many prints from his collection, commenting on their artistic values. In conclusion he presented the Association with his etching of Miss Helen Keller's home in Westport, Conn.

Officers for the year were: Gilmer Petroff, president; Richard Kroth, 1st vice-president; Mrs. Ellinor B. Steinmeyer, 2nd vice-president; Alfred McNamara, secretary; Mrs. Elsa Knauth, treasurer; Prof. David Varon, publicity director. At the spring meeting Miss Helen Reddy was appointed secretary as Mr. McNamara is in the service.

Belles Lettres Society

WALTER KUHN

During the year 1941-1942 the Society was led by the following members: Mr. Leon E. Daniels, president; Mrs. Willard M. Grimes, vice-president; Mrs. L. H. Hartley Smith, recording secretary; Mr. Walter Kuhn, corresponding secretary; Miss Josephine Dockray, treasurer; Mr. Lester L. Callan, historian.

The Society devoted its program for the year to a study of English Literature. Dr. Ernest C. McCulloch was chairman of the program committee. Each meeting was devoted to one period of literary history and an effort was made to trace the literary background of the democratic way of life. A large number of members took part in the programs.

Individual meetings were in charge of the following: Mr. Roswell S. Coles, "The Dawn of English Literature"; Mr. Willard M. Grimes, "Elizabethan Times"; Rev. Theodore Patton, "Restoration Period"; Mrs. Willard M. Grimes and Miss Marjorie Sunderman, Special Christmas Program; Mr. Charles C. Stoddard, "Eighteenth Century"; Mrs. Edwin G. Jackson, "Romantic Period"; Miss Mabel Abbott, "Victorian Period"; and Miss Alice Lawrence, "Modern Period." Miss Marjorie Sunderman arranged incidental music appropriate to each period.

The meetings of the Society were, as usual, held at the homes of its members, except for the April meeting which was held in the Museum.

The annual dinner was held at the Old Mill on March 14. A patriotic note was in evidence. The annual outing was held June 27 at the home of Mr. Cornelius G. Kolff.

Staten Island Bird and Nature Club Report of the Field Secretary

CARLTON BEIL

The outdoor activities of the Club can be divided conveniently for the purposes of this report into bird feeding, census taking, regular field trips and special events. The bird feeding work of the club was again centered at the Staten Island Wildlife Sanctuary at New Springville, where mixed grains, peanuts and suet were put out in suitable feeding stations. Because of the open winter smaller quantities of foods were required than usual and these were distributed principally during the periods of snowy weather. A new weather vane feeding station was installed with the assistance of the members of the Staten Island Junior Museum, the old station having succumbed to the ravages of time, termites and the weather. Feeders were also installed at the S. I. Academy, Todt Hill.

The Club cooperated with the National Audubon Society in the 1941 Christmas Bird Census when on December 27, 1941, observers led by Carol Stryker tabulated 46 species. On June 5, 1942 eight observers under the leadership of Howard H. Cleaves made a census to determine the species of birds breeding on Staten Island. 75 species were counted on this date but some of them are known not to breed in this region. However, by deducting these and taking into account those known breeders which were not seen on the census date a total of 80 species of birds may be said with fair certainty to be breeding here. A full account of this census is found in this issue of the *Proceedings*.

The regular field trip was held each month as scheduled. On these trips, interesting features of the natural history or the ecology of the locality visited were studied. We wish to take this opportunity to thank those members whose hospitality we enjoyed at the close of some of these field trips.

Featured in the spring program of the Club was a series of special events, field trips and meetings with special objectives. Under qualified leaders these events were planned to give to the members of the Club opportunities to enjoy at first hand many of the experiences which ordinarily are known only to the field naturalist.

April 17, 1942.—Evening Trip to Observe the Courtship of the Woodcock. Leaders, Howard H. Cleaves and George Wilmott.

May 1, 1942.—Meeting to Observe Birds Migrating Across the Disc of the Full Moon. Leader, George B. Wilmott.

May 10, 1942.—Early Morning Bird Walk. Leader, Howard H. Cleaves.

May 14, 1942.—Evening Trip to Observe the Courtship of Amphibians. Leader, Carlton Beil.

Staten Island Camera Club

H. S. THOMSON

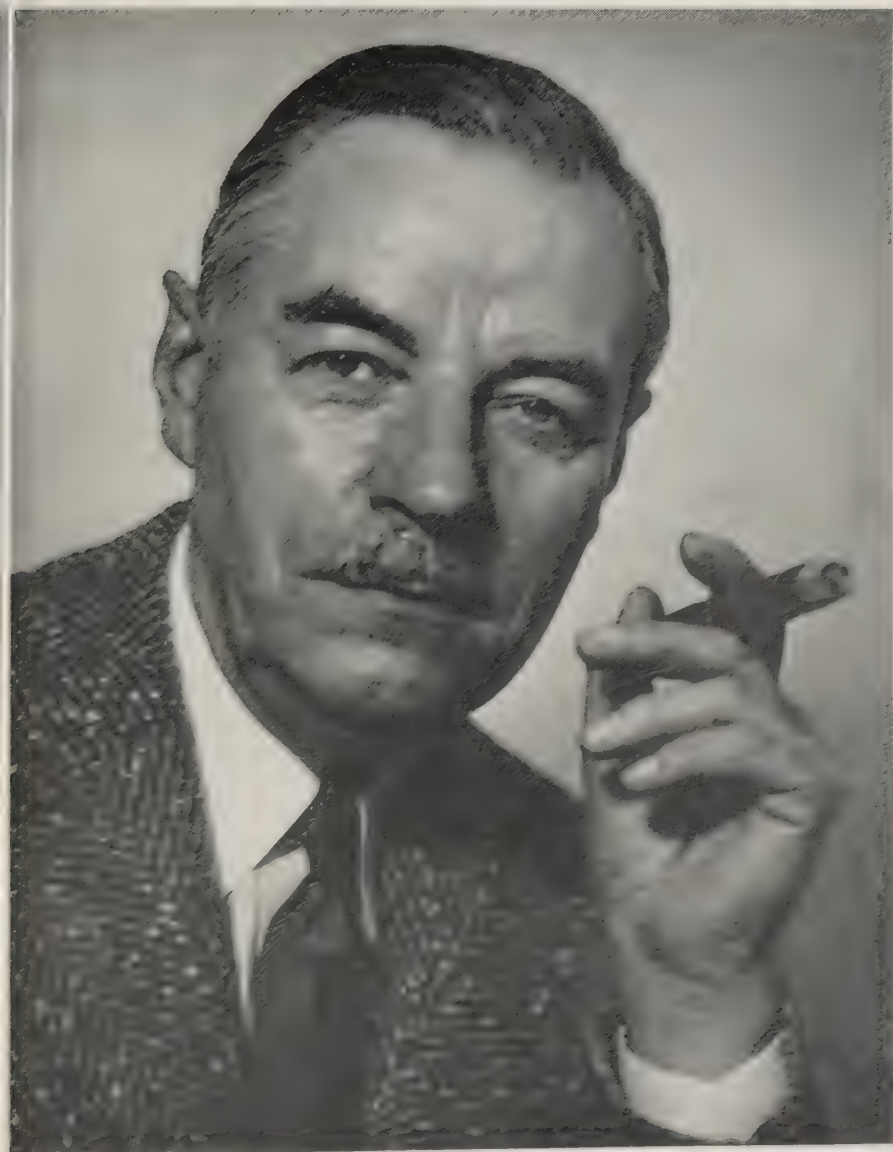
During the past year the Staten Island Camera Club held its meetings as usual, on the evening of the second and fourth Wednesday, during the months of September to June. The first meeting of each month was given over to regular club business, and the submission of prints by members for technical criticism and in competition. The second meeting was devoted to photographic talks and discussions by well known authorities, and to the exhibition of traveling shows from other clubs.

This year saw the inauguration of a new and complete constitution and by-laws, outlining the policies and procedures of the club. Its use was effective in keeping the club pointed towards its objective—to foster an appreciation and understanding of photography.

Courses in photography were conducted for new members as well as any who wished to attend. It was gratifying to see the number of non-members who brought in their cameras and problems for instruction. It is to be hoped that this service can be considerably extended and enlarged next year.

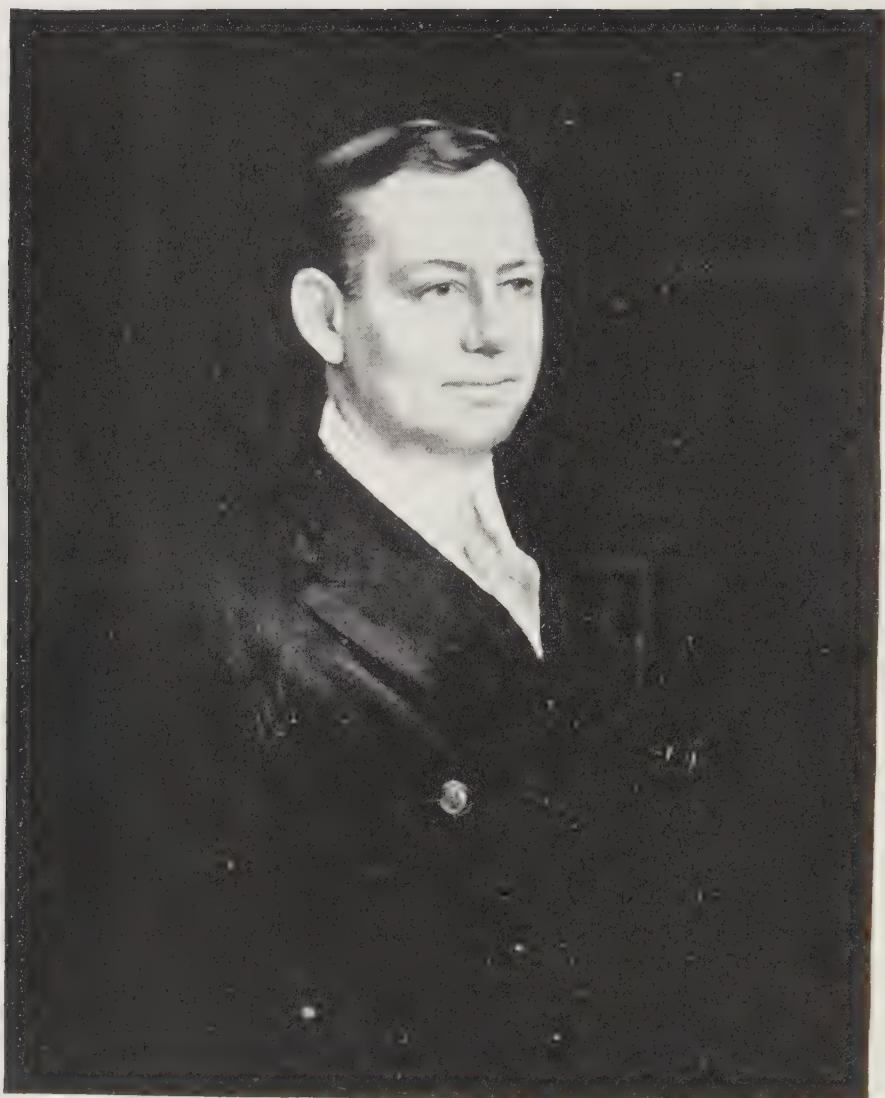
The Club held its annual exhibition of prints in the Art Gallery of the Institute from January 1st to 15th. Forty prints were hung representing the photographic endeavor of most of our members. Pictures for this exhibit are not restricted to our advanced members. We try to have each member hang a picture so that the public can see a cross section of our activity. Many of these pictures continued in public view, being sent as a unit to most of the Public Libraries on Staten Island for exhibition.

This year saw a change in the method of submitting prints for competition and criticism. The Club was divided into an A and B group. In the A group were placed the members who consistently won the monthly competitions during the previous two years. Such a division caused the advanced members to compete against each other. It was stimulating to the remainder of the members to be relieved of this competition and a marked improvement was noted in the number of prints submitted. Competition this year, under this plan, was very active. Winners in the A and B groups were:



LEENDERT VERKUIL

The portrait by Thomas Krens made with the Russian Island Camera of the
Leningrad Museum for the years 1947-1948



CAPTAIN HOWARD A. FLYNN

By John C. Wilson

This portrait of the Governor of Sailors' Snug Harbor was chosen by popular vote as one of the three outstanding paintings in the Annual Exhibition by Staten Island artists.

A GROUP

Thomas Greenslade
H. S. Thomson
Edward Hannigan

B GROUP

Gilbert Hoppin
William Daly
Isabel Kauffeld

A trophy was presented to Greenslade and Hoppin by the management of the Fabian Theatres.

Print submissions for the monthly competitions included pictures on such subjects as "Open Subjects"; "Fall and Winter Scenes"; "Street Scenes"; "Pets and Animals"; "Winter Scenes"; and "Staten Island Scenes."

Our guest speakers, during the year, were drawn from well known experts, and their subjects included: "Selection of a Camera"; "Selection of Film"; "Exposure Meters"; "Composition"; "Portrait Lighting"; "Film and Paper Development"; "Chemistry of Photography"; "Control Processes" and "Enlarging."

Kenneth Adams and Thomas Greenslade, who were on the speakers committee of the Metropolitan Camera Club Council, gave talks before camera clubs throughout Metropolitan New York, Westchester County and New Jersey.

Edward Hannigan and Adams had articles published as follows:
Hannigan: "Publicize Your Camera Club," "Camera Club Annual," "June Weddings," all in *Prize Photography Magazine* and "How to make a Polaroid Filter" in *Photographers Handbook*.

Adams: "Pipe Cleaner Table Tops" in *U. S. Camera*; "Self Portraiture" in *Good Photography*; "Table Top Photography" in *Complete Photographer* and "Backgrounds" in *Prize Photography Magazine*.

The Annual Judging of prints was held May 27. About 150 prints were submitted and judged by Ernest Draper, Arthur Mawhinney and Joseph Berman (Russart Studio), all well known photographers and experienced judges. Winners in this final test were:

Grand Award. Thomas Greenslade

A GROUP

1st Award Thomas Greenslade
2d Award Thomas Greenslade
3d Award Al Bonja

B GROUP

1st Award Gilbert Hoppin
2d Award Vivian Chapman
3d Award Isabel Kauffeld

HONORABLE MENTION

Thomas Greenslade
Kenneth Adams

HONORABLE MENTION

William Riordan
Gilbert Hoppin

The officers for the year were: H. S. Thomson, President; Vivian Chapman, Secretary; Alan Jacobson, Treasurer; Gilbert Hoppin, Chairman Executive Committee; and William Riordan, Chairman Print Committee.

Staten Island Microscopical Society

GEORGE B. WILMOTT

The Staten Island Microscopical Society has held meetings regularly on the first Wednesday of each month from October, 1941 through May, 1942, the number of meetings having been increased this year from six to eight.

The Exhibition by the Society at the regular meeting of the Institute on March 21, 1942 was most successful, there being 70 exhibits by 35 members and friends. At the annual meeting held January 7, 1942 the following officers were elected: Dr. Ralph E. Deal, President; Miss Emilie O. Long, Vice-President; Dr. Florence M. Foote, Secretary; George B. Wilmott, Treasurer.

October 1, 1941. The program for this meeting was provided by the summer activities of the members. Of special interest were notes by Mr. John M. Sheridan concerning the quartz crystals of Herkimer County, N. Y., with exhibition of specimens; Mrs. Ruth N. Nauss reported on tracks left on wood by the plasmodia of Myxomycetes; Dr. Ralph E. Deal spoke of collecting at Brady's Pond with special reference to fresh-water jelly-fish and volvox; Mr. I. C. G. Cooper showed mineral specimens collected at Montreal; Miss Emilie O. Long distributed specimens of the Liverwort, *Anthoceros*.

November 5, 1941. Among the specimens shown and discussed at this meeting were: Sponges by Mr. George E. Ashby; the Bryozoon, *Pectinatella magnifica* by Miss Emilie O. Long; crystals of Anhydrite secured from Rock Salt by Mr. George B. Wilmott.

December 3, 1941. At this meeting the Society voted to become a regular "affiliate" of the Staten Island Institute of Arts and Sciences. The Society was completely reorganized and a set of By-Laws agreed upon.

January 7, 1942. This being the annual meeting of the Society the officers as stated above were elected. Mr. Wm. T. Davis showed an exceptionally large specimen of the Red-backed Salamander, *Plethodon cinereus*, which measured 122 mm. The specimen was collected near his residence. The special program of the evening was presented by Mrs. George B. Wilmott. Pro-

jecting slides prepared by Captain Thomas I. Miller, she spoke of "defense" mechanisms possessed and used by invertebrates.

February 4, 1942. Following the discussion of plans for the Annual Exhibition the following specimens were shown: a slide of fossil wood containing pollen filled insect borings, the whole being silicified, shown by Mr. George E. Ashby; specimens and slides of diatoms, lichens, algae and insects by Dr. Wm. H. Wiegmann.

March 4, 1942. Mr. George E. Ashby showed a field microscope that he had made and carried on many field trips. He exhibited microscopic natural diamond crystals and pearls and cut gems of diamond, ruby, sapphire and emerald.

April 1, 1942. The program consisted of a demonstration of "Living Forms from Brady's Pond" by microprojection by Dr. Ralph E. Deal. Such forms as Volvox, Hydra, Paramecia, Daphnia, Carchesium and wheat bacteria, as well as blood circulation in the tail of the goldfish were among those things seen on the screen.

May 6, 1942. The program was made up entirely of reports and exhibits by members, among which were: a slide of plant hairs on the leaves of *Deutzia gracilis*, by Captain and Mrs. Thomas I. Miller; microscopic quartz crystals from Little Falls, N. Y., by Mr. Peter Thein; the lichen *Collema pulposum*, from the Catskill Mts., N. Y., by Dr. Wm. H. Wiegmann; a minute beetle, *Gribbium*, from the New York Produce Exchange by Wm. T. Davis; larvae of *Ambystoma maculatum* by George B. Wilmott; slide of hypophysectomized tadpole by Dr. Florence M. Foote; the alga associated with the eggs of the Spotted Salamander, *Ambystoma maculatum*, by Mr. I. C. G. Cooper. He stated that they were of the genus *Carteria*.

Staten Island Philatelic Society

THOMAS F. WATERS

The S. I. Philatelic Society met regularly on the second and fourth Mondays of the month. The meetings of the year were devoted largely to exchange of stamps among members of this society and visiting groups. Joint meetings were held with the West Hudson Stamp Club of Harrison, N. J. and the Yonkers Stamp Club. Several collectors who were stationed on the island in military service attended meetings.

Stamps exhibited at meetings during the year included old issues of the U. S. and foreign countries and also a collection of "stampless covers" dating back to the period before postage stamps were put into use. Covers received by men in the service were also shown.

The Society sponsored an exhibition for the children of the Museum Stamp Club. This was judged by members of the governing board and prizes donated by members were awarded.

Two auctions were conducted under the co-chairmanship of Messrs. H. J. Murray and C. D. Farlin. A portion of the proceeds from each was donated to the American Red Cross Society. Clare Brown Jr. was auctioneer.

The Christmas party was held as usual at the Museum. The annual dinner held at the Old Mill in Grasmere proved very successful. The committee in charge of the entertainment consisted of Mrs. Vivien Prien, Mrs. Leo Kroner and Clare Brown Jr.

At the annual meeting held in April the following officers were elected: Thomas F. Walters, president; Mrs. Eva R. Bonney, vice-president; Anselm Nascher, secretary; H. J. Murray, treasurer; and F. W. Bobring, exchange manager. Members of the Board of Governors: C. D. Farlin, J. G. Kuhhorn, Walter Kuhn, W. J. McCoy, D. W. Schneider, C. A. Werner and Mrs. Vivien Prien.

Richmond County Chapter, The New York State Society of Professional Engineers

RAYMOND J. REDDY

The first meeting after the summer recess was held on Thursday, September 11, 1941, and meetings were held generally on the second Thursday of each month under President Chester W. Cambell. During the fall important business of the meetings concerned the work of engineers in civilian defense, members being recommended to serve at control centers of the Public Works Emergency Defense Units in accordance with their experience.

During this period the Staten Island Institute of Arts and Sciences was forming an affiliated Council of the Societies which meet at the Museum. The Chapter gladly welcomed the invitation to join the Council. Delegates appointed were Engineers B. H. T. Mackenzie and Hugo H. Stenberg.

The Chapter noted the loss of a Charter member, Algernon B. Comins, on October 25, 1941. Born in East Eddington, Maine, he resided on Staten Island for 30 years before his death, employed as engineer in the local office of the Department of Housing and Buildings. The press of Staten Island gave fitting tribute to his energy and conscientiousness in fulfilling his duties for the public interest. He served on many committees and as Director of the Chapter, modestly refusing office. His helpful influence has been greatly missed.

On the certification of the Chapter, engineers were supplied to the Civil Service Commission of New York City to serve as surveyors of unsafe buildings. At the meeting on October 13, 1941, Mr. F. Keefer of the Bakelite Corporation presented a film and talk on "The Fourth Kindom—The Story of Bakelite," describing the discovery of synthetic resinous plastics and their subsequent development into molding materials, laminated products, etc.

At the 13th Annual Meeting on January 8, 1942, the following officers were re-elected to their second term: Chester W. Cambell, President; Charles Strohmeier, Vice-President; Raymond J. Reddy, Secretary; B. H. T. Mackenzie, Treasurer. An impressive installation was made by State President Frederick H. Zurmuhlen.

Visitors at the Annual Meeting were entertained by Dr. David B. Steinman, Past President of the National Society of Professional Engineers, who presented "Tri-dimensional Photography" in colors.

The 13th Annual Dinner-Dance was held Saturday, February 21, at the Meurot, Frederick Mardus, Chairman. At this time the Chapter members presented a silver tray to State President Frederick H. Zurmuhlen, organizer of the Chapter, for his untiring services to the Society.

On Thursday, March 12, 1942, a Public Forum on Civilian Defense, sponsored by the Chapter, was held in the auditorium of Curtis High School. Speakers were: Prof. Arleigh Williamson, OCD, Richmond; J. Frank Johnson, Chief Engineer, Department of Public Works; Lt. George Vreeland, N. Y. Police Department; James J. Egan, N. Y. Fire Department; Dr. Herbert A. Cochrane, Director, Emergency Medical Service, Richmond; and Miss V. Charlotte Authier, Department of Welfare. The scope of each of the governmental agencies participating was explained, together with the duties of the regular departments and the civilian and industrial auxiliaries attached to each, forming an efficient and complete civilian defense organization.

The May meeting was held at the Hotel New Yorker on Friday the 15th, in conjunction with the 15th Annual Convention of The New York State Society of Professional Engineers. A high light of the convention was a Latin-American Symposium entitled "Latin-America, its future engineering-economic development," arranged by Engineer Frederick Mardus, at which President Prado of Peru, a professional engineer, was the principal speaker.

The meeting of Thursday, June 11, 1942, was the last for the season.

ANNUAL REPORTS

Annual Report of the Board of Trustees

READ AT THE ANNUAL MEETING OF THE INSTITUTE,
MAY 16, 1942.

The past year has meant many things to many people, but, in spite of world conditions, we are able to report a year of activity, progress and growth for the Staten Island Institute of Arts and Sciences.

The year has been a busy one. Our first project began last summer—rearranging and redecorating a large part of the building, making new offices and library. A major part of the cost of this work was borne by the Woman's Auxiliary, to whom our thanks is hereby tendered.

Our Sixtieth Anniversary on November 12, 1941 gave us the opportunity for a series of special celebrations including a new Institute pamphlet, a reception by the Woman's Auxiliary, special exhibits, and a dinner for city officials and museum heads. All were climaxed by a public meeting at which Mr. Cleaves gave his justly famous lecture, "Night Movies in the Wilds" and Mr. Davis received some slight public recognition for his many generousities over the past sixty years.

Next came the important step of coordinating adult activities. Under the leadership of Mr. Cooper meetings were held and plans perfected for one organization, the Institute Council, with associate Institute membership for society members through dues paid by affiliated groups. This plan was formally approved by Institute members at our meeting on January 17, 1942. The Institute Council is now promoting close cooperation among all groups. Officers are: Mr. Willard M. Grimes, president; Mrs. Henrietta Beaumont, vice-president; Mr. Roswell S. Coles, secretary. The importance of this new group as a direct and effective Institute agency can hardly be overestimated.

Young people's activities also have been coordinated during the year. A Junior Museum has been set up under the direction of Miss Moritz, consisting of a general organization with a staff of elected "specialists" who plan and supervise group activities and exhibits. General meetings are held each month while four section

and four club meetings are held weekly. A new sketching class and a Junior Science Club have been added to the young people's program. Motion pictures have been continued each Friday and hikes held monthly. The first issue of a new publication, the "Museum Guide" written by members of the Junior Museum makes its debut this evening. Marion Osterberg and James Maher won third prize at the Annual Hobby Show for their "Cave of Color" and Stuart Werner was awarded a cup for his stamp exhibit at the Brooklyn Children's Museum.

Two special values of the Junior Museum deserve comment. First, by bringing all young people's activities into one organization there are increased opportunities for active participation in Institute affairs by the "new" generation. More important, is the fact that the opportunity for planning and supervising their *own* programs gives these young people a valuable training for real and effective leadership in our Staten Island democratic society.

Naturally the war has affected our attitudes and programs here in the Institute as it has in all other walks of life. We would be insensitive to a high degree and remiss in our duty if this were not so. During the past summer "all able bodied men between the ages of 18 and 55" undertook the auxiliary fire training course, thus providing a nucleus of trained personnel in case of emergency. A twenty-four hour schedule of duty has been prepared if it is needed. The feeling, however, is to keep our building in operation with as little interruption as possible for as long as we can.

During the summer 1941 there were rumors that the government would expand Miller field with the possibility that the Britton Cottage would be torn down. Fortunately for us, this program has not been undertaken and the Cottage still stands. The continued interest and work of Captain and Mrs. Wilson deserve our thanks.

The closing of the National Youth Administration project has left incomplete library and lantern slide cataloging projects and removes our only clerical force. This has placed a great burden on the staff, since for ten years this work has been carried on either by the Works Progress Administration or the National Youth Administration. It is difficult, if not impossible, now to perform many services which we have supplied during the past years. However, the closing of the children's excursions has compensated for this loss by demanding from the staff less docentry and lecturing during

morning hours, thus permitting more time for other museum activities.

The decline in class attendance has been marked. There were 7,527 children compared with 12,450 during the last year. Adult attendance has increased, however. There were 225 adult groups compared to 178 last year with a total group attendance of 6,917 as compared with 5,659, with a total attendance of 46,028 compared with 48,355. The calendar year showed the highest attendance record in our history, 51,107.

In addition to the Sixtieth Anniversary program seven Institute meetings, eight regular and three special Auxiliary programs and twelve art exhibitions have been held during the year. Special museum exhibits of luminescence, insects, and World War posters were shown and our regular exhibits were varied to focus attention on some special feature or seasonal development. Outside activities included bird walks, Armistice Day hike, Exhibitions by the S. I. Camera Club, concerts by the Aeolian Singers and a defense forum by the Engineers Society.

Because of increased adult activity we have been keeping the building open each week day evening since March first, thus giving visitors the opportunity to see our exhibits after dinner. This is a special advantage, among many disadvantages, of our small building. We now average about twenty-five "casual" visitors each evening in addition to regularly scheduled groups. During the spring two first aid classes have been given here and two groups of air raid wardens have been meeting regularly. Now that tires and gasoline are rationed, the importance of our central location should be emphasized and it is hoped that the fullest use of the building will be made during the coming months.

An organization such as the Staten Island Institute depends to a large extent on many groups and individuals for its continued functioning. We should speak here of the aid given by the city, and we are indebted to Mayor LaGuardia and his administration for their continued support in the face of reduced city expenditures. The Park Department under Commissioner Moses and Borough Parks Director A. M. Anderson has also been helpful in many ways, especially in the preparation of plans for additions to our building. Our own Auxiliary has contributed generously.

The following individuals have performed important volunteer

service during the year and our thanks are due them. Mrs. Henrietta Beaumont and members of the Art Committee, Mrs. George E. Brown, Mr. Joseph F. Burke, Miss Florence Chapin, Mr. and Mrs. I. C. G. Cooper, Mrs. A. W. Hoffmeyer, Mr. and Mrs. Leonal Hoffmeyer, Mr. Robert M. Leng, Mr. and Mrs. Karl O. Nesslinger, Dr. and Mrs. Frank A. Strauss, Mr. H. S. Thomson Jr. Most especially do we owe our continued well-being to the support of our oldest and most beloved member, Mr. William T. Davis.

Institute Meetings

October 18, 1941.—“Exploring the Magic World of Color” was the title of a lecture-demonstration of ultra violet and polarized light given by Mr. Herbert T. Strong in connection with the Sixth Annual Exhibition of the Staten Island Art Association.

November 12, 1941.—Our Sixtieth birthday was celebrated by a public meeting in the Curtis Lyceum of the Staten Island Academy, at which Mr. Howard H. Cleaves presented his “Night Movies in the Wilds.”

December 20, 1941.—Arctic exploration was the subject matter of an illustrated lecture “America Looks to Danish Greenland” by Capt. Robert Danskin.

January 17, 1942.—Mr. R. J. Powers, Bacteriologist, traced the history of the New York City Department of Health and its Bureau of Laboratories and told of its importance in maintaining the health of our city.

February 21, 1942.—Old time Alaska was shown in an illustrated lecture by Mr. Clermont C. Covert who told of his early geological work for the U. S. Government, “Pioneer Work for the United States Geological Survey in Alaska.”

March 21, 1942.—The “Twelfth Annual Exhibition of Microscopic Objects” was presented by 34 exhibitors of the Staten Island Microscopical Society.

April 18, 1942.—Dr. James P. Chapin and Lieutenant M. Wurm presented a remarkable study of one of our common summer visitors, “The Social Life of the Laughing Gull.” This colored film was made by Dr. G. K. Noble and M. Wurm as a part of a biological study of the bird.

May 16, 1942.—Colored motion pictures of northeastern land birds prepared by the National Audubon Society were shown, sup-

plemented by remarks on the habits and identification by Mrs. James P. Chapin.

Section of Art

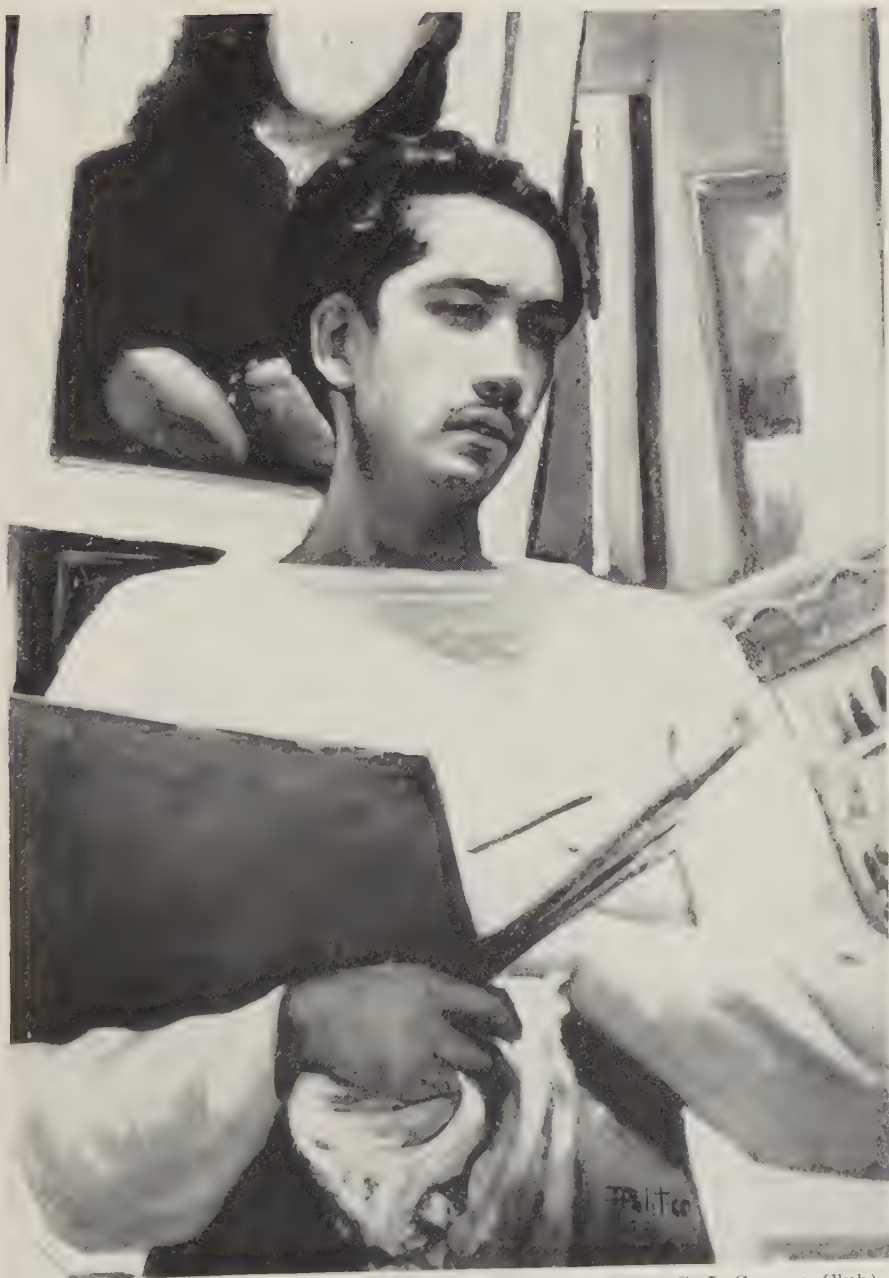
AUDREY F. MORITZ

There have been twelve exhibitions in the Art Gallery from May 1941 to May 1942. Arrangements were made and opening receptions held under the direction of the Art Committee, Mrs. Henrietta Beaumont, Chairman. Newly elected members of the Committee are Miss Audrey F. Moritz and Mr. Armen E. Darson.

Staten Island artists displayed their paintings in four exhibitions. The first, held from April 2 to June 9, 1941, included an excellent oil of her mother by Adeline Albright Wigand. The Artist, by creating delicacy of facial expression and by handling her medium with great finesse, produced an outstanding work of art. The second, from October 1 to November 14, was open only to members of the Staten Island Art Association. Among the many admirable paintings could be found an oil of red barns in a dreary country rain by Armen E. Darson. Further opportunities to exhibit were given Staten Islanders from November 17 to November 28, 1941, in cooperation with National Art Week, and from March 4 to April 28, 1942, in an exhibition arranged, as the first, to promote the creation and appreciation of fine art in our community. The latter show was one of the finest of local paintings to be hung in the Museum gallery. By popular vote the three canvases here reproduced were chosen as most pleasing. Mrs. Wigand's "Morning" received much admiration for its tones suggestive of early morning sunlight, its well balanced composition and appealing subject matter.

Watercolors by Charlotte Livingston and oils by Francis Vanderveer Kughler were on display during the last two weeks of January. Both Miss Livingston, a former Staten Island Public School art teacher, and Mr. Kughler have exhibited extensively in New York and vicinity.

Upon retrospection, the two "one-man shows" of the year, though spaced widely apart, offer an interesting contrast. Valentine Arbogast, from June 9 to July 30, 1941, offered for public inspection a number of natural history paintings, landscapes and portraits, all revealing keen observation and technical ability. His interest seems to be in external appearances. Richard Kroth, on



(Photograph by H. S. Thomson, S. I. Camera Club)

PORTRAIT

By Philip Politico

Chosen as one of the three outstanding paintings in the Annual Exhibition by Staten Island Artists.



MORNING

By Adeline A. Wigand

Chosen as one of the three outstanding paintings in the Annual Exhibition by Staten Island Artists.

the other hand, from February 2 to February 28, displayed a unique group of watercolors in which the imagination and intuition were dominant influences. Both shows were fine examples of their respective points of view.

Work of the children in the Museum Art Class was shown to the public during the month of August, 1941. It consisted of crayon sketches of objects from the Museum collections.

Photographs of members of the Staten Island Camera Club, January 1 to January 15, 1942 compared favorably with preceding fine art exhibitions. The camera work had high artistic value. The portrait of William T. Davis, a splendid character study, proved that he is definitely "photogenic."

Remaining gallery dates were filled by loan exhibitions from other boroughs. Through the courtesy of the Ferargil Galleries, Manhattan, a group of watercolors was shown from September 3 to September 30. Paul Sample, Boise Miller, Julius Delbos, and John Pike were among those represented. During December paintings by American artists were loaned by the Metropolitan Museum of Art. Canvases by Marie Cassat, William Glackens, Childe Hassam, Jonas Lie, and John Sloan were also shown. The Norwegian Art and Craft Club of Brooklyn presented a Festival of Arts and Crafts from May 2 to May 31. Tables covered with multi-colored objects made by hand added to the colorful effect of the oil paintings and gave the gallery a truly "festive" appearance.

Woman's Auxiliary

MRS. KARL O. NESSLINGER

The Auxiliary has completed another year, in which much progress have been made under the able leadership of its President, Mrs. George E. Brown, and the Executive Board consisting of:

First Vice-President, Mrs. James A. Holden; Second Vice-President, Mrs. Anton W. Hoffmeyer; Third Vice-President, Mrs. Henry Murray; Recording Secretary, Mrs. Karl O. Nesslinger; Corresponding Secretary, Mrs. George Smith; Treasurer, Mrs. John W. Dreyer.

Meetings were held on the last Wednesday of each month, from October through May, and a high standard of programs was upheld throughout the year. The 1941 season opened with a Presidents'

Reception and Tea on October 29, 1941, at which Miss Elizabeth Frost of Manhattan spoke on "The Romance of Sterling Silver." During the affair Miss Lillian Shields sang two selections, accompanied by Mrs. Arthur Schardt.

At the regular meeting November 26, 1941, Miss Agnes C. Nash, Art Curator of the Institute, gave an illustrated lecture on "Two Famous Women Painters of the French School, Rosa Bonheur and Madame Vigee LeBrun." Mrs. Clifford Chapin entertained at the piano.

A Christmas atmosphere was evoked at the meeting of December 31, 1941, through the singing of Christmas Carols by the pupils of Mrs. Thordis Emile, who accompanied the young voices on the piano. Miss Janet Pinney, of the Museum of the City of New York gave an illustrated lecture on "Christmas and New Year's Customs in old New York."

On January 28, 1942, Mrs. Geraldine Townsend Fitch, lecturer and writer, and authority on China, addressed the Auxiliary on the lives of the Song Sisters, and an exhibition of objects of Chinese Art loaned by members was arranged by Miss Agnes C. Nash, Mrs. Henry Murray and Mrs. Charles Ingalls. At this meeting the members made a contribution to the United China Relief Fund.

At the meeting of February 25, 1942, Mrs. Ralph R. McKee gave a talk on the "Life of Benjamin Franklin." From her close study of this great man's life, she gave many humorous anecdotes, and during her talk typical musical compositions of the period in which he lived, were played on the violin, by Mrs. Arthur Buehler, and on the piano by Mrs. Harvey Perine.

A special event taking place on March 1, 1942, was a Birthday Tea and Musicale, held in the Museum. Selections were played and sung by Staten Island artists, Mr. John Martin, Dr. Charles Sesselberg, Mr. and Mrs. Adolph Auriema, Mrs. Thordis Emile, Mrs. Frank Hankinson, and the Misses Mary and Frances Hankinson.

The meeting of March 25, 1942, was entertained by Mr. Connolly of the Canadian Pacific Railways who showed motion pictures on the beauties of Canada.

Activities in April were devoted to a Dessert Bridge, which took place in the Museum on April 28, 1942. Fifty-five tables were played. The combined efforts of a committee composed of Mrs. John Koestner, Mrs. A. W. Hoffmeyer, Mrs. Carl Schaefer, Mrs.

Alfred Fickes, and Mrs. James Holden, assisted by the President and other members of the Executive Board, made this affair a huge success both financially and from an entertainment standpoint.

The Annual Meeting of the Auxiliary was held on May 27, 1942. Annual reports were read by the officers, and a nominating committee consisting of Mrs. Arthur Foley, Mrs. Alfred Fickes and Mrs. Donald Holmes submitted a slate. The present officers were re-elected, with the exception of Mrs. Henry Murray, who declined to run, due to poor health. In her place Mrs. Adolph Auriema was elected to the office of Third Vice President. After the business meeting, Dr. Arthur Harmount Graves of the Brooklyn Institute gave a lecture on the history of present activities of the Brooklyn Museum, illustrated by fine views of the Botanic Gardens.

Through the past season the membership of the Auxiliary has continued to grow. The Auxiliary has contributed \$100 toward the support of the S. I. Institute of Arts and Sciences, and in addition has made many new acquisitions for use in the Museum. A mimeograph machine, a grand piano and rug, a five piece silver set, and various kitchen supplies were purchased.

The Auxiliary is affiliated with the New York City Federation of Women's Clubs, Inc., and has sent delegates to all Conventions, and also supported the Federation's Scholarship Fund. It is actively represented in the Federation through Mrs. Clarence Stoughton, Third Vice-President of the Federation, and Mrs. Charles K. Bardes, Richmond Borough Director.

A friendly exchange of courtesies has been maintained by the officers of the Auxiliary, with the many organizations on the Island, and the Executive Board feels, that through the activities of the past year, they have successfully accomplished their aim of furthering the interests of the Staten Island Institute of Arts and Sciences.

Donors 1941-1942

Aeolian Singers
Carlton Beil
Mrs. Eva R. Bonney
Mrs. C. C. Bovey
Elliott Burgher
Ned J. Burns
Miss Annie I. Carpenter

Dr. James P. Chapin
Roswell S. Coles
Mrs. Gertrude Cook
William T. Davis
F. W. Dean
Wm. D. De La Mater
Mrs. L. A. Dreyfus

Mrs. F. W. Farnsworth	Joseph Marrigio
Dr. Vernon B. Hampton	Miss Audery Moritz
Harry Harrison	Norwegian Arts & Crafts Club
Canon Pascal Harrower	Dr. C. F. Pertsch
Historical Records Survey	Alfred & James Peterson
Mrs. E. Jackson	Professional Engineers' Society
Frederick Johnston	Mrs. Martha Robinson
Junior Red Cross	Mrs. Mildred Schilder
John Koestner	Ernest Shoemaker
Cornelius Kolff	Miss Dorothy Smith
Vincent Leis	Francis Steele Jr.
Mrs. C. W. Leng	Mrs. Harold Twiss
Lewis Historical Publishing Co.	A. J. Wall
Miss Charlotte Livingston	Woman's Auxiliary

Treasurer's Report

Statement of Fund Balances for the Fiscal Year ended April 30, 1942

	<i>Balances</i>			<i>Balances</i>
	<i>May 1,</i>	<i>Increases</i>	<i>Decreases</i>	<i>Apr. 30,</i>
	<i>1941</i>			<i>1942</i>
Nathaniel L. Britton legacy:				
Principal	\$22,862.33	\$ 850.00	.....	\$23,712.33
Income	969.79	837.87	\$ 840.88	966.78
William T. Davis fund:				
Principal	12,815.05	600.00	.....	13,415.05
Income	336.21	86.12	31.72	390.61
John J. Crooke fund:				
Principal	2,000.00	.....	.....	2,000.00
Income	33.69	90.00	52.54	71.15
D. M. Van Name fund:				
Principal	100.00	.....	.....	100.00
Income	64.58	7.43	.....	72.01
Building fund	27,118.39	100.00	.....	27,218.39
Endowment and General funds:				
Principal	13,000.00	.....	.....	13,000.00
Science and education	64.29	.....	.....	64.29
Woodrow property income ..	527.12	633.50	636.91	580.97
Britton cottage		.25	98.61	
General surplus		1,213.61	1,057.99	
Advance from Art Committee ..	.....	10.00	.....	10.00
Totals	<u>\$79,891.45</u>	<u>\$4,428.78</u>	<u>\$2,718.65</u>	<u>\$81,601.58</u>

Summary of Assets, April 30, 1942

Securities:

In safe deposit box at Corn Exchange Bank Trust Co.:

U. S. Treasury, 2 $\frac{7}{8}$ %, due 1960 \$ 3,000.00

U. S. Treasury, 2½% Series G, due 1953	10,000.00
N. Y. Edison Co., 3¼%, due 1965	3,000.00
City of New York, 4½%, due 1957	2,000.00
Participation B/M, T. G. & T. Co., 5½%	1,911.07
“ “ , Mfgs. Trust Co., 5½%	927.84
Prudence Bonds Corp., 5½%, due 1945	96.00
“ “ “ , V. T. C., 2/10 shs.	
Held by City Bank Farmers Trust Co.:	
Home Owners Loan Corp., 3%, due 1952	950.00
Participation B/M;	
501/5 Madison Ave., 4¾%	2,000.00
537 Fifth Ave., 5%	100.00
Premium unamortized	23.02
In museum safe, pending transfer to safe deposit box:	
U. S. Treasury, 2½% Series G, due 1954	3,000.00
Total securities	<u>\$27,007.93</u>
Cash:	
Staten Island Savings Bank	\$ 1,931.02
Richmond County Savings Bank	4,329.46
City Bank Farmers Trust Co.	47.98
Corn Exchange Bank Trust Co., checking account	722.75
Petty cash fund at museum	50.00
Total cash	<u>\$ 7,081.21</u>
Cost of building addition	\$35,043.39
Cost of Woodrow property	13,669.05
	<u>\$82,801.58</u>
Less—Balance due Corn Exchange Bank Trust Co.	1,200.00
Total assets	<u><u>\$81,601.58</u></u>

NOTE: The Institute also owns certain items of real and personal property, such as the original museum building, the Britton cottage, furniture and equipment, exhibits, etc., which are not carried on the books.

Analysis of Changes in Funds for the Fiscal Year ended April 30, 1942

Increases:	
Interest on securities	\$ 632.46
Interest on savings bank balances	229.72
Profit on sale of securities	290.31
Dues—active members	598.50
Dues—affiliated societies	44.50
Dues—life members	50.00
Contributions to Davis fund	600.00
Britton fund legacy	850.00
Other contributions	315.00
Rent of Woodrow property	283.75
Sale of Woodrow greenhouses	349.75

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Insurance premium refund	30.00
Sale of publications	1.25
Net profit on 60th Anniversary	43.54
Advance from Art Committee	10.00
Woodrow funds applied to bank loan (see contra)	100.00
Total increases	<u>\$ 4428.78</u>
Decreases:	
Anniversary pamphlet (Britton fund)	\$ 220.50
Other publications (Britton fund)	620.38
City Bank commission, etc. (Davis fund)	31.72
Books and subscriptions (Crooke fund)	52.54
Real estate taxes (Woodrow)	432.10
Insurance and other expenses (Woodrow)	104.81
Interest on bank loan	79.79
Expenses of Britton cottage	98.61
Painting at museum	175.00
Purchase of films	127.00
Other museum expenses	676.20
Woodrow funds applied to bank loan (see contra)	100.00
Total decreases	<u>\$ 2,718.65</u>

PUBLICATIONS OF THE INSTITUTE

1. PROCEEDINGS OF THE NATURAL SCIENCE ASSOCIATION OF STATEN ISLAND
Complete sets cannot now be supplied.

These PROCEEDINGS were printed in octavo numbers, partly in leaflet and partly in pamphlet form, from November 10, 1883, to June 3, 1905, and are included in nine volumes, separately indexed.

They may be obtained by members and patrons at \$1.50 per volume. To others the price per volume is \$3.00.

2. PROCEEDINGS OF THE STATEN ISLAND ASSOCIATION OF ARTS AND SCIENCES

These PROCEEDINGS are in 8vo parts, 4 parts to a volume except V. 7, which was issued complete in one part. They contain the scientific and other records of the meetings of the Association and consist of v. 1-7, June 1905—May 1918.

By resolution of the Association all members and patrons may obtain back parts at 35 cts. or back volumes at \$1.25. To others the price is 75 cts. per part or \$3.00 per volume for both current and back issues.

3. PROCEEDINGS OF THE STATEN ISLAND INSTITUTE OF ARTS AND SCIENCES

Form and price same as PROCEEDINGS of the Association.

These PROCEEDINGS contain historical, scientific, and other articles, as well as records of the meetings of the Institute, and the current issues are sent free to patrons and to members in good standing.

Vol. 1, Oct. 1918—May 1922, p. 1-165, *pl. 1-4*. 1923.

Vol. 2, Oct. 1922—May 1924, p. 1-186. 1924. (Pt. 1, Special Issue.)

Special Issue, Jan. 1924. List of the Coleoptera of Staten Island, by Charles W. Leng and William T. Davis. 82 p. and index. Price \$1.25.

Vol. 3, Oct. 1924—May 1925, p. 1-154. 1926.

Vol. 4, Oct. 1925—May 1927, p. 1-138, *pl. 1-4*. 1928.

Vol. 5, Oct. 1927—May 1930, p. 1-205. 1930-1931.

Vol. 6, Oct. 1930—May 1932, p. 1-220, *pl. 1-8*. 1931-1933.

Vol. 7, Oct. 1932—May 1936, p. 1-164, *pl. 1-4, and map*. 1933-1935.

Vol. 8, Oct. 1934—May 1938, p. 1-170, *pl. 1-3*. 1937-1938.

Vol. 9, Oct. 1938—May 1940, parts 1, 2, 3, p. 1-131, *pl. 1-16*. 1940-1941.

Special Publications, Nov. 12, 1931. History of the Staten Island Institute of Arts and Sciences, prepared for Semi-Centennial Meeting; list of members included. 24 p. illus. Price 50 cts.

Nov. 12, 1941. Illustrated pamphlet prepared for Sixtieth Anniversary. History and activities of the Institute and its affiliated societies. 24 p. Price 50 cts.

4. THE MUSEUM BULLETIN

Monthly octavo leaflets, containing official notices of meetings of the Institute and sections, important items of business transacted by the Board of Trustees, and descriptive items concerning the museum exhibits and activities. Begun in August 1908. Current numbers sent free on application. Back numbers 2 cents each.

Checks should be made payable to the Staten Island Institute of Arts and Sciences, and all remittances and communications addressed to

Staten Island Institute of Arts and Sciences,
Staten Island, N. Y.

MUSEUM STAFF 1941-1942

<i>Director</i>	Roswell S. Coles
<i>Curator</i>	Carlton Beil
<i>Assistant Curator</i>	Audrey Moritz
<i>Museum Guard</i>	John Koestner
<i>Museum Assistant</i>	Agnes C. Nash
<i>Educational Assistant</i>	Eva R. Bonney
<i>Janitor</i>	Robert B. Holmes
<i>Night Watchman</i>	Harrison Johnson

DEPARTMENT OF ARTS AND ANTIQUES

In charge of Miss Nash

DEPARTMENT OF BOTANY

William H. Wiegmann, M.D., *Honorary Curator
of Cryptogamic Botany*

DEPARTMENT OF ZOOLOGY

William Thompson Davis, *Honorary Curator*
James Paul Chapin, Ph.D., *Honorary Assistant*
John Koestner, *Assistant*

DEPARTMENT OF BOOKS

Joseph F. Burke, *Honorary Curator*

DEPARTMENT OF MINERALS

Joseph F. Burke, *Honorary Curator*
Carleton A. Siemer, *Honorary Assistant*

Vol. 10

October 1942-May 1944

Parts 1, 2

PROCEEDINGS

OF THE

STATEN ISLAND INSTITUTE

OF

ARTS AND SCIENCES

EDITED BY

JOSEPH F. BURKE, WILLIAM T. DAVIS

ROSWELL S. COLES

PUBLICATION COMMITTEE

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Issued November 9, 1944

Staten Island, N. Y.

THE SCIENCE PRESS PRINTING COMPANY

Lancaster, Pa.

PROCEEDINGS

OF 1955

STATEN ISLAND INSTITUTE

OF

ARTS AND SCIENCES

VOLUME X

OCTOBER 1955-MAY 1956

EDITED BY

JOSEPH F. BIRKE, WILLIAM T. DAVIS

EDWARD S. COLE

WALTON C. CHAMBERS

Published by the

STATEN ISLAND INSTITUTE OF ARTS AND SCIENCES

STATEN ISLAND, N. Y.

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PRAIRIE HORNED LARK

Nest with young

Photographed at Crooke's Point, July 14, 1944, by George B. Wilmott



CALIFORNIA HORNED LARK

Nest with young

Photographed at San Diego, Calif., by Howard H. Cleaves, 1922

PROCEEDINGS
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VOL. 10

OCT., 1942-MAY, 1944

PARTS 1, 2

Staten Island Bird Notes, 1944

HOWARD H. CLEAVES

Glossy Ibis

On Sunday, May 14, 1944, Dr. and Mrs. James P. Chapin and their friends, Dr. and Mrs. A. J. C. Vaurie of New York arrived in Pleasant Plains with the special desire to see and hear Bobolinks. This wish was gratified by discovery of three male and one female Bobolink in the Mt. Loretto hayfields near Hylan Boulevard and Sharrott Avenue. All three males were in almost constant pursuit of one female, their rollicking song giving all of us much pleasure. At about 4:30 p.m., as we listened to the Bobolinks and studied a Greater Yellow-legs wading in a shallow pool in one of the fields, Dr. Vaurie asked, "What birds are those?" He was looking toward Light House Hill where the Prince Bay light house used to stand, watching four large birds flying toward us from the southwest. They flapped and sailed alternately and kept in line as if members of a much larger company. As they came closer the birds veered to the left and gave us a profile view. We could then easily identify them as Glossy Ibises, to us the first known occurrence of this southern species on Staten Island.

The Ibises chose to alight in the small pool with the Yellow-legs, but circled the place warily three or four times before landing. The sun was at our backs and the birds were less than a hundred yards distant, all of us using prism binoculars of eight magnifications. We could study to advantage every feature—the long, slightly down-curved bill, the long legs for wading, the rich iridescent sheen of the dark brown plumage. An Ibis of this species is two feet in total length and possesses a wing spread of almost three feet.

After a few minutes the Ibises took off into the sun toward the west and disappeared. About an hour later they were rediscovered at the edge of a larger temporary pond just south of Hyland Boulevard on the Mount Loretto grounds not far from the boundary of the Butler Estate. Near them were four Mallard Ducks, possibly semi-domesticated. At this more secluded spot the Ibises remained more than an hour, allowing me time to drive home for my wife and son, Henderson, and to notify George Wilmott and the Carlton Beils by telephone. Before the Ibises flew away again, this time toward the south, the group of ten observers had approached under partial cover of a big pin oak to within about fifty yards. We were able to see the birds' every movement as they walked along the shore looking for food which they did not seem to find. We even saw one individual scratch its head. They made no vocal sounds of any kind.

The Glossy Ibis belongs in the tropics and sub-tropics, its nearest regular habitat being Florida. Dr. Frank M. Chapman, in the 1912 edition of his *Handbook of Birds of Eastern North America*, refers to two records of occurrence each for Washington, D. C. and Long Island, and a single record for Cambridge, Mass., the latter in May. In *Birds of the New York City Region* (1923), Ludlow Griscom cites "two old records for Long Island," in September 1847 and October 1848, probably the same referred to by Chapman, and Alan D. Cruickshank in his *Birds Around New York City* (1942), in addition to these same two old Long Island occurrences, mentions an individual of this species "discovered in the Van Cortlandt Park swamp on May 13, 1935 (Wiegmann). It remained for three days and during its stay was chased from one end of the swamp to the other by scores of frantic bird students." States Cruickshank further, "Possibly the same bird took refuge in the wilder, more extensive marshes at Troy Meadows, New Jersey, for an individual of this species was seen there on May 26, 1935 (J. L. Edwards). Another was carefully studied in Troy Meadows on May 21, 1939 (J. L. Edwards) and one was seen flying over the ocean at Jones Beach, Long Island, on August 15, 1937. . . ." The same author adds that there have been marked flights of Glossy Ibis "just to the south of us" and that there are now many records for southern New Jersey. It is noteworthy that of recent records three occurred in May, one on the 13th of May within a

day of the appearance of our four birds on Staten Island. News of the rare visitors spread rapidly, a few "frantic bird students" coming to the Island from other parts of the city in hope of seeing them, others telephoning, but the Ibises were not seen again.

Prairie Horned Lark

The first nest of this bird known to have been discovered on Staten Island was located at Crooke's Point in the Great Kills Park area, Great Kills, on July 10, 1944, by Mr. and Mrs. George Wil-mott and the writer. The nest—always placed on the ground by this species—was nicely situated beneath a canopy of coarse grass stems in such a way that the tender young birds, five in number, were sheltered from the hot sun during midday. The only open approach to the nest was from the north and it was on that side that the parent birds made their deliveries of food consisting of small hairless caterpillars and what looked like grasshoppers, grubs and crickets. These observations were made at close range by aid of my "magic carpet" blind, a rattan framework covered by a blanket of imitation green grass. (See illustrations.)

At the threshold of the nest the adult birds had laid down a pavement of clam shell chips. I once found the nest of a California Horned Lark near San Diego, California, in front of which the birds had built a path of adobe chips. This is an old Horned Lark custom. The birds are resourceful, using whatever suitable materials are at hand.

In feeding the young the old birds followed the consistent pattern of alighting on high ground about fifteen feet west of the nest, often using a tussock of dead grass as a lookout. A beak full of juicy food did not prevent the old bird from uttering a soft squeak note of metallic quality, upon hearing which the young in the nest instantly opened their eyes, raised their heads, some of the young-sters opening their mouths in anticipation of delivery. Like a faint echo to the parent's call I could hear low peeping sounds issuing from the nest. It was as if the young ones were saying, "We're here, Mom. Come on in with that food." The mother would then descend from her tussock, run a few feet toward the nest, hop up on a short piece of plank for a final survey, then sprint for the nest eight or ten feet away. As she ran her tiny toes rattled over the dead grass stems and I could hear the grains of sand flung against the parched vegetation by her fast moving feet.

Delivery of provisions was done with speed and precision. Three downy heads rested on the nest rim and two others formed a second tier alternating with the front three, all five bills aimed toward the quarter from which the parents always came with food. After thrusting her load into the chosen mouth the old bird shifted her stance slightly, watching the other end of the chick just fed. Usually in less than five seconds the fed chick reared its rump and ejected a glistening, globular, wet, whitish excrement sac which was seized by the old bird and immediately flown to a great distance for disposal. In carrying away this refuse the adult usually flew just above the ground and due south toward the beach. Later I sat with binoculars on the greatest elevation of dredged land an estimated hundred yards south of the nest and watched an old Horned Lark take off toward me carrying one of these conspicuously white burdens. She passed about twenty-five feet away, flew on toward the beach until she disappeared behind a ridge more than a hundred yards to the south, still carrying that fecal burden. This was efficient sanitation.

On Sunday, July 16th, Dr. and Mrs. James P. Chapin went with me to see the lark's nest. Tragedy was indicated by the presence of many feathers strewn over the ground in front of the nest suggesting that some predator had killed one of the parent birds. Two of the young had vanished but the three remaining ones were unharmed and almost ready to leave. During more than an hour spent near the nest in a blind I was able to see but one adult with food, evidence that the surviving parent was carrying on and would bring off the remaining young.

Three inches in front of the nest, half buried in the soil, was a Horned Lark egg, and the end of July when the site was paid a final visit I found another unhatched egg in the otherwise empty nest, making seven laid. However looked at, this stands as a case of high production, the usual clutch for the species being three or four eggs.

The Prairie Horned Lark occurred originally in the prairie country of the middle west, but began spreading eastward as land was cleared. In recent years it has penetrated into central New York state, New Jersey, Connecticut and, more lately, Long Island. Bird students speculated as to how soon the species would approve Staten Island as a home site and they had not long to wait. Mr.

Bernard Nathan of Brooklyn told me that he had seen Horned Larks at Miller Field, New Dorp, and suspected them of nesting there, but the use of binoculars around a military establishment being highly inadvisable, especially after outbreak of war, further information was not forthcoming. The late Carol Stryker observed a Horned Lark feeding a single young bird in the Clove Lakes Park area but did not report finding the nest from which the bird had taken its departure.

Around 1940 Horned Larks were noted by several observers to be present and acting suspiciously through all months from March to July, inclusive, in the vicinity of Oakwood Beach and Crooke's Point, a situation which was repeated in 1941 and 1942, but with no nests reported found. In 1943 I saw an adult with food in her bill while I was walking across the filled area near the extremity of Crooke's Point, but found no nest. It was with understandable satisfaction, therefore, that a nest was located and observed with close attention in 1944.

Turkey Buzzard

This master glider, with wing span of close to five feet, occurs rather abundantly in nearby New Jersey, being a familiar object in the skies above Monmouth County, the Pine Barrens, the hills west of Boonton, the country along the Delaware River, especially around the Delaware Water Gap and in rugged north Jersey. But the Turkey Buzzard is an irregular and infrequent visitor to Staten Island. Each and every occurrence is an event to the bird enthusiast. The few Buzzards seen by me on Staten Island were all soaring and drifting during migration in late March or early April. Until June 4th, 1944, I had never seen a Buzzard perched in a tree or otherwise at rest on the island. Early in the morning of that date I was passing through woodlands between Pleasant Plains Avenue and Ramona Boulevard, about a mile east of Outerbridge Crossing, when I heard crows mobbing something and found this to be a Buzzard perched in a big oak tree in dense woods. The bird's great wings flapped and swished loudly when he took off at my approach. On the ground beneath the oak I found whitewash, small feathers and one secondary wing quill ten inches long. These seemed evidence that the buzzard had used this trees as a roosting place for some time. It was then that I remembered hearing crow turmoil in that direction several times in the preceding weeks. At

a later hour the same day three Buzzards were seen circling above the woods where the single bird had been flushed in the morning. Then, on July 13th, I saw a Turkey Buzzard in flight low over the tree tops near Huguenot Park, the bird heading in the direction of the wilder section of Wolfe's Pond Park.

Incredible as it may seem there are areas of southwestern Staten Island, roughly between Bay Terrace and Tottenville, more jungle-like in character today than thirty or forty years ago. In many places cathrier, blackberry, poison ivy, hawthorn, gray birch, phragmites and other plants, shrubs and trees have formed impenetrable barriers. It is possible that Buzzards in their roaming flights have appraised these changes and found them good. They may even have bred here this year (1944), or may do so in the near future. Their eggs are often laid on the ground in the heart of a dense tangle or beneath a partly fallen tree. On the other hand, these Buzzards seen on the island during the breeding season may be no more than unattached wanderers, their presence having no special significance.

Bob-white

In 1942 one Bob-white Quail was reported from Oakwood Heights by Bernard Nathan, Arthur Kunin and Edward Whelen, three observers who had come from Brooklyn to assist Staten Island workers in taking a breeding bird census. This report was regarded with some skepticism by us because we had encountered no Bob-white on the island for many years and it seemed more than likely that a bird whose loud, clear whistle serves well to advertise it would have been heard if the species still persisted. Now, August 1944, I have numerous reports of Bob-whites heard, and of two birds seen, in widely separated parts of Staten Island during the past two months. Some of the localities indicated are Brighton Heights, New Springville, Dongan Hills, Grasmere, Richmond, Great Kills and Prince Bay. The Bob-whites seen, as well as heard, were reported by Miss Mathilde Weingartner from Great Kills and by Mr. and Mrs. K. O. Nesslinger from Grasmere. Conservation Department agent Andrew Zimmer, when questioned by telephone about Bob-white on the island August 15, 1944, stated that he knew of no attempts to restock in recent years. He mentioned reports of Bob-whites three years ago in South Avenue, Rockland Avenue in the vicinity of Sea View Hospital, and Willowbrook Road.

Pewee Persistence

On June 4, 1944, I discovered a Wood Pewee laying the foundation of her nest on the horizontal fork of a branch about twenty feet above ground in a twin-trunked red oak growing in the Mt. Loretto woods, Pleasant Plains. She gathered what appeared to be small cobwebs from tree trunks, and from dead branches lying on the ground, this material being then wiped from her beak, and from the bristles at the corners of her mouth, onto the bark of the branch at the nest site. While she did this she usually squatted in the position she would assume later while incubating or brooding, apparently to make sure the building materials were properly placed in shaping the nest for a perfect fit. But before the nest had gone beyond the foundation stage the Pewee abandoned the site entirely.

About three weeks later I visited this woodland again and was pleased to discover the Wood Pewee busily gathering nest materials. By following her flight I discovered a new nest almost completed in a twin-trunked sweet gum at the edge of an expansive hayfield across a cinder road from the woodland. This nest rested on the crotch of a slightly drooping branch about eighteen feet above the hayfield. Two weeks later this nest had disappeared and the Wood Pewees were nowhere to be seen or heard.

On Saturday, August 13, 1944, while conducting the field trip of the Staten Island Bird and Nature Club through the same section I led the group of some fifteen persons to the first site of the Pewee's nest-building. While I was explaining what had happened a Wood Pewee flew to a perch nearby and in a few moments was observed by Carlton Beil to fly direct to a nest containing newly hatched young. We could judge the age of the nestlings by the fact that they were not yet large enough to raise their heads above the nest rim when their mother fed them. We watched through 8-power prism binoculars. Several feedings took place as more than a dozen bird watchers looked on and wished the Pewees all success in this, their third attempt in one season to rear a family.

Whip-poor-will Endurance

In 1943 I heard the first Whip-poor-will of the season calling on the evening of April 20th from our home in Pleasant Plains. Partly in jest and to impress a neighbor with the punctuality of Whip-poor-wills, on April 20th, 1944, I said, "You ought to hear the

first Whip-poor-will tonight." At dusk I listened carefully but heard no Whip-poor-will. This was a disappointment. The bird had let me down. My ego was dented. I went to bed, but at four a.m. by some freak of chance I woke up—and heard a Whip-poor-will calling. That bird probably wasn't even on Staten Island the preceding evening but during the night had come in on the last lap of its long spring migration flight from possibly as far off as Salvador or Honduras—traveling by stages only at night—and had arrived on schedule.

William T. Davis points out that the call of the Whip-poor-will sounds more like "purple rib" than "whip-poor-will" and with this opinion it is easy to agree.

Whatever the Whip-poor-will says, he says a lot of it. On warm, moonlight nights, when courtship and mating are at peak, a male Whip-poor-will puts on a broadcast of such vigor and duration as to exhaust not the performer but the listener. A woman of our neighborhood complains that these birds almost "drive her nuts." Being a fitful sleeper, she awakes in the middle of the night or toward dawn and hears a Whip-poor-will's penetrating, repetitious call. Such is the effect of the loud, throbbing rhythm on her nerves that she cannot sleep again as long as the performance lasts, and it sometimes lasts a long, long time.

On the night of June 1st, 1944, I was troubled by wakefulness which I attributed, correctly or otherwise, to strong coffee which I drank in the evening. About midnight I awoke and heard a Whip-poor-will performing from one of his stations only a short distance north of our house. The male birds use selected sites or stations for their broadcasting, these being strung out along a circuit, the Whip-poor-will putting on a "program" from a flat stone, perhaps, then breaking off abruptly and flying silently to another spot such as a tree branch or a large conduit cable strung between poles. When a singer changes from one station to another the shift is easily detected by the long break while the bird is in flight and by the change in volume of sound due to the increase or decrease in distance.

When I woke up on that night of June 1st the Whip-poor-will had probably been calling for some time already. Then I lay in bed listening to him for several minutes before I thought, "Why not tabulate his score?" So I began counting the number of "purple ribs" uttered by him, without pause, while he sang from the one

station; but prior to the start of this scoring the Whip-poor-will had probably delivered himself of no fewer than 300 calls, and this figure is conservative. These calls are made at the rate of about one per second, sixty per minute. My system of counting was to clench my right hand and open up one digit-thumb, index, etc.—for every hundred calls. When the count reached 500 I clenched my left hand, allowing my right to remain outspread to avoid duplication or confusion. Then the thumb and fingers of my left hand began to unfold as the score continued to climb. When that bird finally stopped and flew off the “purple ribs” totaled 779. Add 300 done by the Whip-poor-will before the start of the count and the grand total exceeds 1000. If the broadcaster had hesitated for as long as five seconds at any time during the performance I should have started a new count. Being fearful that I might forget the figures before morning I got out of bed and set them down on paper then and there.

On June 2nd at 11 p.m. I kept the score of presumably the same male Whip-poor-will heard calling from the same station. But in twenty-four hours he had “slipped.” He rolled out only 450 calls before tuning out and flying away. On the night of June 4th, however, he was back in good form and ran up a tally of 711. This represented steady, repetitious effort on the part of that bird—and probably equal effort by me—for eleven full minutes. The top performance of 1000 required not less than sixteen minutes of uninterrupted calling. Without question the moon stimulates the male Whip-poor-wills. On dark nights even during May and the first half of June, a period covering the height of their nuptial stimulation, I have noticed that the birds call for less than an hour beginning at deep dusk, then are not likely to do much calling again until just before dawn. On bright moonlit nights the resounding cry of “purple rib” can be heard all night long. By mid-August, or before, the Whip-poor-wills have become silent except for a few outbursts just before daybreak. About August 10th I heard one bird in the pre-dawn give a short burst of seven calls. That was all. It is worth noting that the moon was at first quarter May 20th and at the full June 6th and that the dates on which high scores for Whip-poor-will calling were recorded occurred between the two. Even in August a bright moon will to some extent revive the urge to sing.

There are noticeable variations in the tempo of Whip-poor-will

singing. A lone bird in late season sounds as if he needs oiling. His calls drag. But two males in early or mid-season fling syllables at each other with dizzying rapidity. The stone walls of St. Louis Academy, near our home, produce almost perfect echoes. A hammer blow struck in our yard comes back with startling clearness as the sound waves rebound from the building. The sharply articulated "purple rib" of the Whip-poor-will makes a perfect echo and, while I cannot prove it, I am of the opinion that the local Whip-poor-wills on several occasions have been completely deceived by the sound of their own calls in rebound. I have heard birds increase their tempo and when they did so the echo increased *its* tempo. One of these Whip-poor-wills speeded up until his sound apparatus jammed completely.

Least Tern

The colony of Least Terns on Crooke's Point, Great Kills, has greatly diminished, the reason appearing to be the spread of vegetation over most of the filled ground. This smallest and, in certain respects, most beautiful of all our sea swallows demands an open area of shell and sand for nesting, the nest itself being a shallow depression in the sand made by the bird's body. The nest is then decorated with numerous fragments of white shell. Only one suitable area about twenty-five yards in diameter remained free of vegetation this season and it was here that the few nests were located. Ten or twelve adult birds were observed flying above the nesting grounds and two nests located, one with two eggs, the other with two newly hatched chicks. That other pairs had bred successfully was evident from the several well-developed young seen receiving food from their parents. Chicks are capable of leaving the nest sites soon after hatching. They then toddle off into areas of sparse vegetation, flattening themselves motionless on the sand near some small plant or bit of drift material when intruders are near, emerging when the coast is clear to receive a small fish delivered by one of the parents. In 1943, as has been noted in the *Museum Bulletin* (Vol. XXVI, No. 1), the Least Tern population at the Point was estimated at between seventy-five and one hundred adult birds. The colony in 1944 went back to about ten or a dozen birds, or what it was in 1942, the first year the Terns bred here, and if plant life encroaches much further on the birds' special type of domain the Least Tern as a breeding bird on Staten Island may become only a memory, but a most pleasant one.

Industrial Aspects of Organisms Found in the Kill van Kull at Livingston, S. I.

LEE A. ELLISON

At the Staten Island Edison Corporation's plant at Livingston, S. I., the mechanism for removal of floating or obstructing matter in the water of the Kill van Kull has for many years offered an unusual opportunity for the study of benthonic life and industrial problems arising from continuous circulation of large quantities of the water from this area of New York Harbor.

Here water is taken from a depth of 20 feet below mean tide level, through moving screens, to provide the cooling medium in 75,000 sq. ft. of surface condensers in four large turbo-generator units. In other words, steam which has completed its work of driving the turbine is condensed back to water and used again for the production of steam, by being condensed on the outer surface of thousands of bronze tubes, through which sea water flows.

This study, extending over a period of about six years, has given a fair idea of the large and small organisms found in the Kill van Kull by examining what is brought up by these moving screens, and also from a study of material removed at other places in the plant by finer screens; also from study of deposits on the condenser tubes.

This water varies greatly in analysis between incoming and outgoing tide and summer or winter, flood or drought conditions in the Hackensack-Passaic watershed. Extremes of analysis in a single day for this water are given below:

	<i>High tide</i>	<i>Low tide</i>
Chlorides as chlorine	12,392 p.p.m.	5,524 p.p.m.
Calcium oxide	350 "	300 "
Magnesium oxide	598 "	575 "
Sulphate radical	1,157 "	711 "
pH	7.6	7.8

Only the significant radicals were determined, since a complete analysis is not industrially important for the usage to which the water is put.

The fish and crustacea caught on these screens are those common to fresh water and salt water. Following is a list of fish removed from the screens during the past few years:

Usual habitat
fresh water

Common eel
Fresh-water bass
Common catfish
Banded dace
New York shiner
Moonfish

Usual habitat
salt water

Bay shiner
Banded pipefish
Sole
Slender silverside
Mud lamprey
Pygmy flatfish
Sea horse

From May till October it is not unusual to find the common jellyfish. On one occasion these were so numerous that clogging of the traveling screen occurred in spite of the continuous strong jet of backwash water applied as the screens go over the upper sprocket wheels.

Of the crustacea observed, the most unusual species was the mantis shrimp, *Squilla empusa*, a specimen of which is now at the museum. Other crustacea found were the common prawn *Palaeomonetes* and the common green crab.

While fish and crustacea at times become almost troublesome in clogging auxiliary screening devices protecting salt water pumps of various capacities, the two most troublesome organisms were the tunicate, *Molgula pellucida*, and the hydroid, *Tubularia crocea*. These two merit special comment.

Molgula pellucida at one time became so numerous, and clogged the screens to such a degree, that it was necessary to provide attendants continuously to scrape the creatures off the screens as their travel brought them to the top of the screen's movement. They often cluster together in masses of forty or more. They become numerous each year about August 1st, reach greatest numbers about September 1st, and then decrease gradually throughout the winter until they are almost or entirely absent from April 15 to July 1st or 15th. Other *Molgulidae* have occasionally been numerous, principally *M. manhattanensis* and *M. arenata*.

Tubularia crocea is never entirely absent from the screens, and because it is so small and easily is not completely removed by the traveling screens, the aperture size of which is $\frac{3}{8}$ inch. The *Tubulariae* are caught again on protective perforated sheets just ahead of the condenser tubes, but many are broken up and pass on into the tubes. It is interesting to note that quite flourishing growths of them have been found in the circulating pump casings, condenser

water found and inside tunnels, where they are in total darkness. The species that have been found adhering to the surfaces of the bronze tubes in a manner that indicates actual growth. Another hydroid, *Diphyasia fallax*, is occasionally found.

Occasionally the common barnacle is found growing on the cast iron surfaces above mentioned, in total darkness. They are always small.

Few species of marine algae of large size are ever found. Among the only ones found on the systems are of the genera *Fucus* and *Bryopsis*.

Going from the larger tubes to the smaller or microscopes, an examination of frequent samples of water brought up from the 20 ft. depth, gives the following water column:

DIATOMACEAE

*Asterionella**

Navicula

*Synedra**

*Tabellaria**

Nitzschia

*Cyclotella**

Pyrosoma

Melosira

Diatoma

CHAMPHYLIDAE

None

FLAUIDAE (BRYOZOA)

*Dinobryon**

COLEPHERIDAE

Clothrix

Ciadsophora

Hydrodictyon

Volvox

Cosmarium

Tetraedron

LOPHOSIPHIDAE

Crenothrix

* Common forms of permanent attachment.

Of the above species found in the Hull test Hull water, only a few are found in the slime which gradually builds up on the inner surface of the condenser tubing. This slime is removed by drawing rubber plugs through the tubes with compressed air. This slime very appreciably reduces the efficiency of the condenser by restricting the flow of the cool water from the heat of condensing steam, reducing the heat transfer to a point that would diminish the turbine efficiency by as much as 1%. Aside from choking the traveling screens and the inlet ends of the condenser tubes the slime constitutes one of the most direct relations of benthic organisms to industrial operating problems, since its removal means additional labor costs and taking a growing part out of

service. No living Chlorophyceae or Schizomycetes have been found in this slime, and relatively few diatoms, principally *Asterionella* and *Cyclotella*. Were it not for the analysis of this slime it might be dismissed as merely a silt deposit. However, the following average analysis of the dried slime:

Ignition loss (mostly organic matter)	28.35%
Insoluble in strong mineral acids	43.92%
Soluble in strong mineral acids	27.73%

Analysis of acid-soluble portion including organic matter:

Iron oxide	20.12%
Phosphate radical	1.95%
Calcium oxide	1.16%
Magnesium oxide	1.94%
Copper oxide	0.74%
Zinc oxide	0.78%

shows so high a percentage of organic matter that a conclusion must be reached of the growth in the tubes of bacterial matter, small or undetected Chlorophyceae, and broken-up fragments of *Tubularia*, which are always found in the slime. The copper and zinc oxides result, of course, from corrosion of the bronze induced by stagnant water conditions in the slime. Copper compounds in a concentration of 2 to 5 parts per million are known to be toxic to most diatoms and Chlorophyceae. It is common practice to treat water-system reservoirs with copper sulphate.

In many power plants located on rivers or brackish streams, growths on the condenser tube surfaces of algae, Chlorophyceae, Cyanophyceae and Schizomycetes give rise to a severe operating problem, partially solved by treating the cooling water with chlorine or a suitable chlorine compound.

At Livingston the cost of cleaning the condenser tubes and necessary shutdown of equipment for cleaning, directly relates benthonic life to dollars-and-cents economy.

In the study of diatoms present in the sea water and slime, the method of Mr. Joseph Burke of destroying interfering organisms was used with much satisfaction.

It is hoped that future conditions will permit a more complete study of living organisms found in Kill van Kull water. At present, wartime restrictions and changed equipment made continued study difficult.

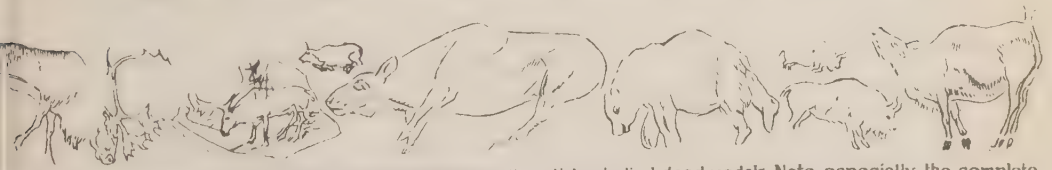
Some Factors in the Rise and Decline of Painting

PERCY A. LEASON

When we take a larger view of art today, I think there can be no doubt that there is, at present, a very real threat of a decline. If we observe what kind of art is taught to hundreds of thousands of children in the schools of many countries, and reflect that amongst these children is our next generation of artists, I am afraid we cannot be too optimistic. We must remember that there have been other periods when art has either died out altogether or has survived only in a very stagnant form. I believe that what happened then can happen again, just as the Nazis have swept a part of the world back to an older, more violent and more chaotic form of society. And I think that it is true that the very same factors which, on other occasions, have brought a decline in art are with us today. It is these factors which I propose to deal with. In other words, what I shall review are the most striking and most obvious facts of art history, the simple and obvious facts of a rise or decline.

What were the important discoveries that caused the first clumsy scratchings of man the artist to develop with time into the finest things that painting has produced? And what were the striking mistakes that caused art to decline and sink into oblivion at various times?

Nowhere do we have these factors more vividly illustrated than in the very first art that we know anything about, the art of the old Crô-Magnon cave dwellers of France and northern Spain. They were not only the first artists, but they were also the first people of our own species that we know anything about. There is not yet any final agreement as to where they came from, but they settled in the caves of the Pyrenees and seem to have lived a peaceful life of fishing and hunting and being decent to one's neighbor. We get



es of European prehistoric cave art which strongly indicate that the artists studied dead models. Note especially the complete
e of any suggestion of weight bearing in the limbs and the "tip-toe" feet. (Tracings after Breuil and others)

a hint of this last from the fact that they had no good fighting weapons. They put all their best flint chipping into tools for making drawings and for carving bone needles that were as fine as any used by ancient Rome. One is tempted to believe that once they settled down, life with them was one long round of art classes, sewing circles and nature rambles. Perhaps it was they who gave rise to the legendary Golden Age!

At first their art was just meaningless scrawls in the clayey surface of the cave walls. Gradually these scrawls took the shapes of animals, very crudely done. As time went on there was a steady improvement, so that scientists of today can say for certain what species of animal they pictured. They had already discovered that color was necessary and had introduced it. But now they did what no other primitive artists ever have done, and this is very important, they discovered light and shade and began to explore it. So art steadily, if slowly progressed. This period is called the Aurignacian.

And then came a sudden and quite dramatic break. The first Hitlers and Napoleons came along to improve a peaceful race. The glaciers of the Ice Age had withdrawn somewhat to the North. There came a mild climate in lower Europe, and with it came herds of hooved animals wandering in through Switzerland from the East. After them came hunters who had very fine hunting and fighting weapons indeed, their best flint working went into the making of the famous "laurel-leaf" spearhead. There is some evidence that they learned something of art from the Aurignacians, but as yet, it is somewhat doubtful whether they did much with it; perhaps with a true he-man's psychology, they looked upon art as a sissy business. These people, who had Caucasian traits, seem to have occupied the caves for several hundred years. Their period has been called the Solutrian.

And then once more the glaciers moved southwards and the last phase of the Ice Age was under way. The climate turned colder and the hooved animals retreated to where they had come from. Most of the Solutrians seem to have followed them.

At any rate, back came the old Crô-Magnons to the caves, and what is called the Lower Magdalenian period commenced. Now art really began to come into its own.

But it was during the next period, the Middle Magdalenian, that

the great outburst came. For primitive hunters, these men did the most remarkable things. They again took up the study of tone and seem to have learned far more about it than many historical artists. The Egyptians never learned as much about it, the Greeks may have learned more, but it was not till the Renaissance that artists actually surpassed the old Crô-Magnons in this matter of tone. I personally think that their work represents one of the important epochs of painting.

Art must have played a very important part in their lives; and there must have been an enormous production of pictures. Only in this way can we explain the odd examples of fine craftsmanship that appear in the caves; such work was the product of a great deal of painstaking study and practice. What is found in the caves can be only a fragment of what they did, perhaps on skins or wood. I believe that all their best work perished in this way. They were the first artists to make special palettes, and they even had crayons of pigments mixed with animal fat. These things have been found in the caves.

The Middle Magdalenian period was not a long one. It suddenly ended and was followed by a briefer one in which the artists did very strange things. In fact we could say that it was really quite "modern." However, in a few short years art was completely dead in the caves, even though the same races continued to live in them. And, so far as we know, art was not to rise again until the coming of the Egyptians.

Before reviewing the obvious factors in the rise and decline of art with these people I should like to define two terms, "percept" and "concept," two terms which I like because they go far towards removing all doubt as to what we mean when we speak about art.

A percept, or in its longer form, perception, is a mental occurrence that gives us awareness of things outside the mind. I perceive many people, I perceive a table, I perceive shapes, colors, tones. All these mental occurrences are percepts. In any experience we have scores of percepts. If we did not, we would have no experience. When any experience has passed we may still have the percepts that we received from it, stored away. They are derived from the sense impressions of the experience. The sensations pass and are no more, but our percepts remain as the mental record of the experience. So much for percepts.

A concept more or less explains itself. It is also mental. If we think of a concept as something like a string of beads, each bead a fact or fancy about a particular thing, or class of things, I think we have a fair working concept of a concept. To illustrate, five years ago I had no concept of the Museum building. But as the result of countless percepts about the place on various occasions, I have more or less consciously developed a great many concepts of the building. I think I could almost find my way about some parts of the building in the dark. But all these concepts are imperfect—they are in the process of developing.

A great deal more could be said of concepts, but this will suffice for now: There are concepts of particular individuals or things, and there are concepts of the type specimen, so to speak. It is this last kind that will first come into our consideration of the factors in the rise and fall of Crô-Magnon art—the kind of concept that a child tries to express when he draws say, a cow. Watch him go over the beads on the string: A cow has a roundish body, four legs, a head, a tail, etc., it is brownish, or whitish, or reddish, or blackish, etc. We parents are pleased as we watch him, thinking that he is a nice normal, intelligent and observant child; what he does are the signs of all that. If he goes on nature rambles, or if he grows to be an old man, or both, he will eventually have a more developed concept of a cow, and more highly developed concepts of countless other things, that is, if we adults do nothing to spoil his observation, his natural curiosity.

This is exactly how art developed with the old cave people of the Ice Age. First there was the mere playing about with meaningless lines, then came the attempted expression of a vague concept of some kind of animal, just the kind of thing that a young child does. The concept of the animal's shape was so vague that the expression of it was naturally distorted. Gradually the artists took to observing animals more closely and so with the improvements of their concepts, distortions gradually disappeared. So far, they expressed only concepts; concepts of natural shapes and of the best they could do with the typical color of these shapes. Here they were true primitive artists, who never do anything more than express concepts of things, their shapes and colors, if they can.

But now the Crô-Magnons took *the* step that lifted them above the rank and file of primitive artists: they commenced to give up

expressing only concepts and commenced to express percepts derived from direct experience with the particular animal.

As you probably know, the thing for which they have received the most credit was the action and general liveliness of their pictured animals; most writers have told us that these old men loved action at all costs, above everything else their pictured beasts must jitter-bug, so to speak. And it certainly seems that this was the intention at times.

But I am convinced that the talk of action at all costs has been along the wrong lines. It has caused us to overlook important evidence that these long dead men had very much in common with such painters as Rembrandt. The truth seems to be that they were the first artists who went direct to nature; they got all their seeming action by studying dead animals.

This, if you reflect on it, will seem a tremendous step forward. We are so familiar with artists going directly to the particular thing in nature that we think nothing of it; the "moderns" with their remarkable capacity for destroying the meaning of useful works, even call such investigators of natural phenomena conventional, conservative, etc.

But think what it must have meant to the old cave artists when one of them demonstrated the *greater* truth that came from making direct reference to a particular animal. While one is expressing concepts only, one is expressing what is always imperfect, dreadfully imperfect, sometimes. By going into the realm of percepts, the expression of the story of direct experience with the particular, the old men opened up the most reliable road to real truth in art. As the artists observed more and more closely in studies of the particular animal, as they sought more and more diligently for truth of shapes, truths of colors and truths of light and shade, so their work became more and more vital, more like the image of real animals in the visible world.

And then came the decline. What happened we can only guess. I imagine that artists started decorating implements with drawings, and before they were aware of what they were doing, they had given up their adventure in the world of real appearances and the expression of percepts, and they were presently back at the old childish business of expressing only concepts. But the concepts that they now expressed were not the original innocent and normal ones of

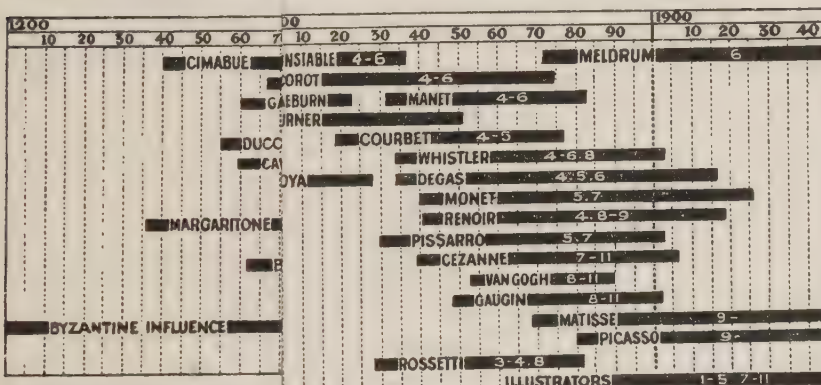
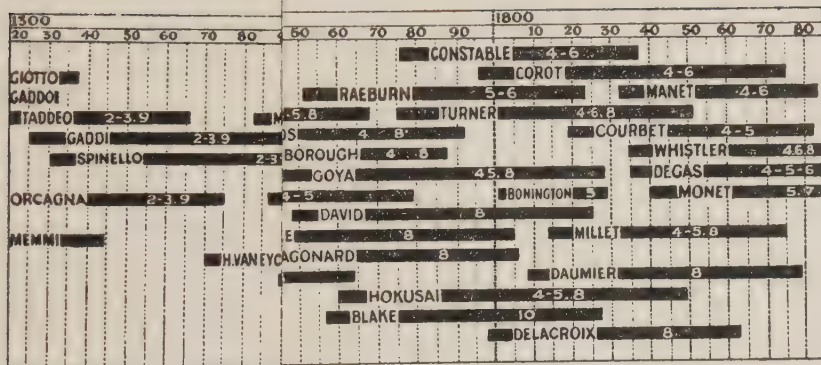
natural appearances; the new concepts were new ones developed to meet the ends of decoration. The old explorers had all passed away and artists had come down to sitting by the roadside, so to speak, and perhaps imagining that they were doing something better than mere copying, something more beautiful than nature! And so, since they had given up the search for something interesting to say, it followed that they gradually came to have nothing worth expressing, except the crudest, most distorted concepts. Thus art died a natural death.

These are the outstanding and obvious factors, the very important things that we always tend to overlook in our love for romantic details that teach us nothing and keep the field of art only the cloudy thing that it is.

I shall now try briefly to show you that these same factors operated in the Renaissance and are operating today. The term "Renaissance" means simply springing up anew, rebirth, being re-born. This, in turn, means that art, having forgotten to refresh itself by reference to nature, now turned once more to doing that very thing. The older men were chiefly decorators and illuminators and slaves of the Byzantine influence, they put most of their art into the enriching of religious and other texts and they were content to express over and over again the Byzantine concepts. Since they never referred directly to nature, their crudely drawn figures were always distorted. But they served their purpose and so art managed to survive and drift along that way for quite a long time, until the closing years of the thirteenth century.

Then came Cimabue, and the Renaissance had its somewhat hesitant beginning. Cimabue remained all his life very much under the old influence and was content to express concepts. When he drew a man, he drew him out of his head; but he often glanced over his shoulder at nature, so to speak. It was, however, his pupil, Giotto, who really began to demonstrate the possibilities of learning from nature. When he painted people, Giotto tried to give them the gestures and expressions of real life. But although he tried hard to break away from what had gone before, there was still in his work, and that of the men he influenced, about fifty per-cent of the old Byzantine habit of mind.

Taddeo, Orcagna, and Gaddi carried Giotto's teachings through the fourteenth century and then the fifteenth brought Masaccio and



PAINTING FROM 1200 A.

The intention in this chart is to show the most important factors which have influenced the development of painting. This outline is not meant to doubt the basic ideas of the painter, but to show the later development of the art. Many of the same sequence more or less clear rational tendencies of their authors are recognized as the logical highest stage at 4, and turning to find their imitators, those few painters who

It is not intended to suggest that painting always have doubtful value. The zoologist's and the ornithologist's, the cartoon, the botanist's and the many more, serve useful purposes in the expression of concepts. What is important is that the expression contribute nothing to the deal with different aspects of reality. When their true function is over, they can be great examples of painting, and they may become factors

DEFINITION OF TERMS AS USED IN THIS CHART

sense (sensation), **sense impression**, The product of sense organs, which ceases to exist for the mind when the stimulus which produced it ceases to operate on the sense organ.
concept, The product of the perceptive faculty in its reaction to sense impressions, a mental occurrence giving awareness of things outside the mind.
concept, The product of the conceptive faculty (imagination), "a string of ideas"; each bead a fact or fancy pertaining to a thing or class of things. Examples: Jones has a body, head, limbs etc.; is ambitious etc.; Oak trees are thick foliage, green in summer, yellow in autumn etc.; Gremlins are small, haunt air etc.; This chart expresses a concept of the rise and decline of painting.
appearances, The proportions, tones and colors of external objects perceived in optical sense impressions.

the Bellinis, father and son. They further reduced the Byzantine influence and increased that of nature. With them the Renaissance was well under way. Giovanni Bellini had as pupils Giorgione, Titian and Leonardo, and art in their hands came within an ace of dropping the expression of all concepts and becoming the direct study of the particular in nature, the expression of percepts only. Oil painting had been invented, and imported into Italy by Antonello, who got the recipe from the Van Eycks. Antonello passed the secret on to Veneziano who in turn gave it to his friend Andrea del Castagno, who promptly murdered Veneziano, thinking to keep oil painting for himself. He, like most of the artists of the time, realized the greater freedom and richness that could be got from oils, the nearer approach that could be made to nature's great depth and variety. This upward swing of the Renaissance certainly seems nowadays to be in reverse, when one thinks of many artists giving up oils for a return to the old archaic medium of fresco.

But to return to that great blossoming art of the sixteenth century. It was a period of many fine artists. Tintoretto, Moroni, Holbein, The Breughels, Caravaggio, all of whom, along with Titian, were paying very humble respects to nature's appearances, while poor old El Greco was turning away from her a little peeved because his work was taken for Titian's. He bolted back into the realm of concepts in order to be different.

And then within seven years of each other Velasquez and Rembrandt were born, the two splendid painters who were to take the final step and turn their backs completely on all the old concepts of what art should be, all the old arbitrary formulae of composition, and picture-making generally. Velasquez especially, did very little else but worship at the feet of nature and in Corot's words, attempt to "spell out a little of her A, B, C."

We may find a marvellous field for theories of vitality in art if we concern ourselves about the little idiosyncracies of individual artists involved in the Renaissance. But when we fuss about these things, it is, I think, a case of being unable to see the forest for the trees. We lose that larger view of art which is the important one for us to take in order to be clearly aware of rises and declines. When we take this larger view it becomes strikingly obvious that the leading men between 1200 and 1700 A.D. took exactly the same kind of steps as the old Crô-Magnons during the rise of cave art.

The chief factors in the rise in both cases were the same—the turning away from the expression of concepts to the expression of percepts derived from the particular experience.

And then after Rembrandt and Velasquez came the decline, just as it did with the old Crô-Magnons: artists turned away from the direct study of nature to do what they considered something better, more lofty. They still studied nature, but they also did other things. And consider the amazing result. Within twenty-five years of Rembrandt's death, there was only one painter in practice in Europe, whose work was important enough to make his name well known to us—this was Hobbema. And I do not think it could be said of him that he was a great contributor to the development of painting. His field was landscape, and in that field others did far more—Claude, Canaletto, Turner, the splendid Constable, Corot, and others.

But let us return to Velasquez. Now when we consider his work and influence, we must take time off to make another definition of a term. This is necessary in order to remove confusion, and in order to appreciate how far Velasquez went beyond others in the business of seeing nature as she is. This time the word to be defined is "seeing." And there is a very great deal of confusion about that word. You will remember this in your art school days, "You are not painting what you see; this is only what you think you see." While that was very crushing, it was actually rather nonsensical. Everybody—even the Velasquez type of pure impressionist, only paints what he thinks he sees; he cannot do more than that. A little puzzling, I know! Velasquez seems to have been the first to sort it all out very clearly.

Now if I look in your direction, I say that I see you. Men have used such language for a long time. But if for the sake of art, we make a careful definition of our terms and narrow down the meaning of the word "seeing," we can get rid of much confusion. So instead, I say I "see" a set of patches; and in this set of patches I "perceive" many people. Now you appreciate the fact that there are two distinct things: the automatic *sense impression* which comes to the door of the mind, and is in no way preserved by the mind; and the *perceiving*—the thinking—that takes place in response to that sense impression. We *must* separate the two things. While psychologists and philosophers continue to speak of sense-percep-

as if there was only one inseparable thing, they help to preserve confusion in art. All this Velasquez seems to have understood better than any other man before him. It is the fashion nowadays to speak of him as if he had no mind, but only an unflinching eye and a very obedient hand: he could, in other words, have taken his eyes out, and thrown away the rest of his head. But I hope I have made it clear that in this business of exploring nature's actual appearances and in knowing what one sees, the mind of Velasquez carried him a good deal further than his eyes have gone. What they cannot forgive him for, and this they fail to realize, is that while the professional art critic went on talking to write about what it comes to his painting. He succeeded better than any other painter up to his time, in leaving out all expression of concept, and in expressing only percept, derived from the particular experience. He even went further, and expressed only beautifully related percepts. Critics cannot write about such things; to tell others what a Velasquez gives, you must use paints.

I will not take up more time in reviewing all the movements of art since Velasquez. I will merely touch on some of them in order to leave you with the question whether art is declining.

It is pretty obvious that art now is artless, time to understand better and better the exact nature of something seen. Today we are told that this kind of exploration, this seeking of the unknown, is the activity of a connoisseur, a fashionable person, a student.

As art goes, it was because men in their never-ending struggle to understand what is seen, gradually corrected distortions in their pictures and succeeded in giving the appearance of real light, atmosphere and depth. Today we are told that distortions are a very desirable quality in a painting, a mark of "the good sense." "He marched them up to the top of the hill and marched them down again," and the great achievement lay not in getting them up the hill, but back on flat ground again—back to the same old flatness with which they began, because primitive artists did not know how to give same flatness.

The painters of history, as they slowly and painfully threw off some of the early ignorance and gradually acquired knowledge, left behind all the old distortions, and made colors and shadows that you find in the art of young children, and people prisoners, and they gradually came to making all shapes and colors and tones

A savage can appreciate raw reds and blues and greens—it is no use offering the islanders anything else, as our soldiers know—but the important painters came to appreciate the delicate changes of color in grays and anything else, and to get civilized pleasure in attempting to assess these changes. Today we are told that in order to have true, up-to-the-minute art we must have distortions of shapes—the more the better; we must take any liberty with light and shade, even leave it out and get back to the old crude outlines used by the very first artists; and as for color, well for goodness sake jazz it up, give us color straight out of the tube, paint elephants pink or green, but certainly not gray. Throw the black out of your paint box! Show that you have esthetic vision!

And with those few thoughts of today, and reminding you that they are being taught to hundreds of thousands of children, including the artists of tomorrow, I leave you to reflect whether the old art of painting is not threatened with a decline.

Adeline Albright Wigand and Otto C. Wigand

EMMA L. R. WHITE

The Art Committee sustained a great loss in the death of two of its members, Adeline Albright Wigand, on March 30, 1944, and Otto C. Wigand, on June 17, 1944. Since the Section of Art was first formed in 1909, they were untiring in their efforts to help in every way that they could, and their friends and associates fully appreciate their faithfulness and loyalty to the Institute.

Mrs. Wigand was at one time considered one of the country's leading woman portrait painters. Her paintings, which included landscapes, interiors with figures, nudes, flower studies and still life were exhibited in art galleries throughout the country over a period of years and won many prizes.

According to "Who's Who in American Art," 1940-1941, she was awarded the Burgess Prize of the New York Woman's Art Club in 1905, the Simpson Prize in 1908, the Shaw Memorial Prize of the National Academy of Design in 1909, the Watrons Prize in 1910, the National Art Club Award in 1912 and the National Association of Woman Artists' Award in 1926.

Born in Madison, New Jersey, Mrs. Wigand moved to Cedar Rapids, Iowa, with her family when a young girl. A few years later she came East to study art at Cooper Union and the Art Students' League in Manhattan, and then went to Paris to study at the Julian Academy. While a student there she met Otto Wigand, a fellow student, whom she later married when they returned to America.

She won many honors while abroad and exhibited in the Paris Salon. When in Germany for one year she painted steadily and produced a fine example of her work called, "Morning in Rothenburg." Another noted picture is "The Woman in the Brown Cape," painted in Munich.

Mrs. Wigand also studied under such famous artists as William M. Chase, Robert Fleury and Bouguereau. She was a member and former president of the National Association of Women Artists. From 1925 to 1931 she was president of our Art Committee. Before coming to Staten Island she had studios in Manhattan on 16th Street and 5th Avenue, and on West 66th Street. For many years

she and Mr. Wigand had a summer home in the Adirondacks near Wilmington, as well as their charming studio home on the side of Grymes Hill, which commands a distant view of the water. She lived on Staten Island for about thirty years.

At one time she maintained a studio in Elizabeth, New Jersey, and then went to Cedar Rapids and painted various portraits there. To mention but a few there are ones of Dr. Henry Ristine and Mr. and Mrs. W. O. Wiman and their daughter, Katharine. Her picture, "A Woman in Blue," was purchased for the Public Library in Cedar Rapids. She is also remembered for her portrait of Benjamin Thaw painted when he was a child in Newport, Rhode Island.

On Staten Island, three families are possessors of her portraits. One is of Mr. Wigand's nephew, Mr. Robert Wigand, who also owns two small portraits of his children, another of his sister, Mrs. Homer Marshall, as well as one of Mrs. Marie Wood, painted in Mrs. Wigand's New York studio.

Special mention should be made of her painting, "Portrait of My Mother," done many years ago. The tender, expressive face, with its admirable draughtsmanship and beautiful warm tones make it worthy to be placed in the same class with Whistler's portrait of his mother.

In the latter years of Mrs. Wigand's life her work, naturally, slowed up considerably. She was a constant exhibitor at the Institute, however, up to about a year or two ago. She was modest and never pushed herself into the limelight, refraining from depending upon any of the art dealers to bring her publicity. Her life was dedicated to painting and she was content to dwell in the atmosphere of the beauty of nature and all lovely things surrounding her. She might well have been the author of the lines by Walter Prichard Eaton.*

THESE THINGS I LOVE

These things I love, and they are friends to me,
A pearl-pink East above the summer sea,
A cold green sunset over snow-waved fields,
The earthy incense that the farrow yields.

These things I love because they bring me peace,
The hush that comes when evening bird songs cease,

* Reprinted by permission of the author.



OTTO C. WIGAND

From a portrait study by Adaline Albright Wigand

The setting moon above a mountain wall,
The drift of leaves across the road in fall.

These things I love because they are so fair,
My woodland path through banks of maidenhair,
The shad bush shining in the naked wood,
The mountain hiding in its cloudy hood.

These things I love, but more than all the rest
I love the longing and the eager quest
For beauty dreamed, that makes us still aspire
Beyond the world rim to the heart's desire.

Mr. Wigand was born in Manhattan, and resided on the Island for the past thirty years. His early work was in steel and wood engraving. He then studied at the Art Students' league, and in the Julian Academy, Paris, under Boulanger and Lefevre. He exhibited in the Paris Salon.

Mr. Wigand was a member of the New York Water Color Society. In April, 1935, when the Staten Island Art Association was formed, he was chosen its first head. A year later he was reelected, but the following December he resigned because of ill health.

Mr. Wigand also was a designer of stained glass windows for Tiffany's and did designs for wood carving. His work in oil and water color has been shown in galleries throughout the country and in the National Academy of Design, Manhattan, and his work is represented in the Boston Art Club.

Carol Stryker

In the untimely death of Carol Stryker, May 5, 1944, Staten Island has lost one of its foremost exponents of Nature and the study of natural history. He was born on Staten Island in 1900 and the all-absorbing interest which has later been associated with his name was evidenced at an early age.

He came to the Museum as a young man and became one of the charter members of the Staten Island Nature Club in 1919. The frequency and diversity of his observations in the published records of the Nature Club attest his capabilities as a field observer.

He was elected the Field Secretary of the Staten Island Bird Club in 1919 and took an active part in building the Bird Club Cabin, also leading field trips and participating in the annual bird census.

Carol was appointed Assistant Curator of the Museum in 1923, and in 1924 he organized the Staten Island Council of the Woodcraft League of America, becoming its head guide. His marriage in 1929 to Miriam Campbell, who had for many years been associated with him in museum and woodcraft activities, was a pleasant event for their many friends.

In 1933 the Staten Island Zoological Society was formed as a section of the Staten Island Institute of Arts and Sciences with Dr. Chapin as President, Harold O'Connell as Secretary and Ellsworth B. Buck as Treasurer. Carol was authorized to assist in the development of Barrett Park. With the completion of the Zoo in 1934 the Zoological Society became an independent body and Carol became the first Director and General Curator. He remained in this position until shortly before his death.

Peter E. Crowe

The field of natural science on Staten Island lost a research mammalogist of great promise through the death, on May 23, 1944, of 1st Lt. Peter E. Crowe who was killed in action over England while piloting a Flying Fortress. Prior to his death he had been awarded the Air Medal with Oak Leaf Clusters, and the Purple Heart.

Peter Crowe was born February 19, 1921, in Brooklyn, but was brought to Staten Island at the age of one year. He first came to the Museum in 1935, and here he received his natural history foundation with his study of insects under the guidance of William T. Davis. Through a collection of Brown Bats, which he made one summer, his interest turned to mammals and as a result of this he arranged a study collection of small mammals and prepared and mounted mammals for exhibition in the Museum. Upon his graduation from New Dorp High School he attended Cornell University where he received a Bachelor of Science degree. During these years he also worked at the American Museum of Natural History and participated in three summer expeditions: the Texas Trailer Expedition in 1939, the Kansas, Colorado Expedition in 1940 and the Frick, Alberta, B. C., Expedition in 1941. His notes

made on these expeditions were published in the Bulletin of the American Museum of Natural History, Vol. 80 of 1943. References to his findings on Staten Island are made in the *Proceedings of the S. I. Institute of Arts and Sciences*, Vol. 8, Parts 1 and 2, and Vol. 9, Parts 1 to 3.

Mrs. Louis A. Dreyfus

Mrs. Louis A. Dreyfus, Staten Island's outstanding civic worker and philanthropist, who died August 17, 1943, was mourned by all those who knew her for her generosity and the spirit behind it. She was born Berta Schreiber in Berlin in 1857, but was brought up and educated in Switzerland. Her interest in social problems was evident in her youth, when her ambition to become a doctor was prohibited by her family. It was in Zurich that she met Dr. Louis A. Dreyfus, a native of Sandusky, Ohio, and three years later, in 1892, sailed to America to be married. They lived in Cleveland, Colorado and Chicago, and 1896, moved to Staten Island, as the patents of a cold-water paint, invented by Dr. Dreyfus, had been leased to the Muralo Co., in New Brighton.

Mrs. Dreyfus soon became interested in the Institute, participating in meetings, and furthering its work by gifts, including a bust of Dr. Dreyfus by S. E. Theobald, a 16-mm. motion picture projector, and a large donation towards the erection of the second floor of the Museum building. She was active in the reorganization of the Staten Island Bird Club and held office for many years, and during 1921-41 her generous support assisted in the maintenance of winter bird feeding stations. In 1929 her election as an honorary member of the Woman's Auxiliary took place as a tribute to her interest and patronage.

Staten Island Natural History Records¹

The increased volume of nature records resulting from the amalgamation of the Staten Island Bird Club and the Staten Island Nature Club and the present wartime need for economy in printing have caused the Club to issue its "Proceedings" for 1942-1943 in abstract. The full records of the Club may be referred to in the Museum.

Outstanding Accomplishments of the period were:

1. Starting the five-year census of Staten Island flowering plants, under the leadership of I. C. G. Cooper, 1943.

2. Filming "Days Afield," by Frank Gunnell, on the occasion of William T. Davis's 80th birthday, October 12, 1942. This colored motion picture was projected at a reception held in the Museum in Mr. Davis's honor; and again was shown at the regular monthly club meeting, December 20, 1942.

3. Publishing a series of posters, "Birds Seen from the Ferry-boat," March 1943. These posters were the work of Mrs. Howard Cleaves.

4. Christmas Bird Censuses, taken December 28, 1942, and December 26, 1943.

5. Nesting Bird Censuses, taken June 13, 1943, and June 4, 1944.

6. Winter bird feeding.

7. Celebration of 29th anniversary of the Club, at Richmond Memorial Hospital, June 11, 1943, in honor of Mrs. Louis A. Dreyfus, charter member of the club.

8. Sponsoring and arranging programs for the Institute meetings of May 15, 1943, and March 3, 1944.

9. Purchase of Records of Albert R. Brand Bird Song Foundation, Laboratory of Ornithology, Cornell University, and personal recordings of Bird Songs by Edward Avis.

Officers: 1942-1943: President, Howard Cleaves; Vice-President, Emilie O. Long; Secretary, Carla E. Nesslinger; Field Secretary, Carlton Beil; Treasurer, Karl Nesslinger.

1943-1944: President, Lee A. Ellison; Vice-President, Carlton Beil; Secretary, Carla E. Nesslinger; Field Secretary, Edwin Rundlett; Treasurer, Karl Nesslinger.

¹ Prepared from the records of the Staten Island Bird and Nature Club by Lee A. Ellison and Roswell S. Coles.



PETER E. CROWE

Photographed at Oakwood by Howard H. Cleaves, 1935

New Members: We have welcomed to our membership: Charles G. Ackerman, Stanley Blazewicz, Lillian Bryan, Mrs. I. C. G. Cooper, Charles Ericson, Harold Goesle, Mr. and Mrs. John Plumb, Mrs. Casimir Redjives, Mrs. Mason Parke, Edwin Stumpp.

Necrology: We mention with deep regret the death of seven of our members: George P. Engelhardt, 5/25/42; Arthur A. Michell, 6/21/43; Mrs. Louis A. Dreyfus, 8/17/43; William Sonntag, 12/15/43; Cornelius A. Hart, 1/18/44; Carol Stryker, 5/6/44; Lt. Peter E. Crowe, 5/23/44.

Meetings and Field Trips: The policy of the club for its entire history has been faithfully continued, of holding a regular meeting and at least one field trip each month.

Meeting Programs: Specially prepared topics were presented at regular meetings as follows:

Frank E. Gunnell	"Days Afield"	10/24/42
I. C. G. Cooper	Kodachromes of Trees and Flowers	11/28/42
Frank E. Gunnell	Motion Pictures	12/26/42
Howard Cleaves	"High Speed Photography"	1/25/43
W. Lynn McCracken	"Branches and Twigs"	12/27/43
Mrs. Edgar Sleight	"Turquoise Mining"	3/27/43
Lee A. Ellison	"Central New York State Ice Storm of December 26-30, 1942"	4/24/43
I. C. G. Cooper	"S. I. Wildflower Records"	6/26/43
I. C. G. Cooper	"Preservation and Mounting of Flower Specimens"	8/28/43
Arthur Martens	Tame Crow, Ravena	11/27/43
John Arcate	"Making Telescopic Mirrors"	1/22/44
Charles Ericson	"Dendritic Crystals"	2/26/44
Edwin Rundlett	"Golden Hamsters"	2/26/44
Mathilde Weingartner	"European Shells at Oakwood Beach"	2/26/44
Mrs. Ruth Nauss	"Growing and Identifying Mycetoza"	3/25/44
John Koestner	"Exploring and Collecting in Florida"	4/24/44
Lee A. Ellison	"Spring Flowers"	4/24/44
Carlton Beil	"Animal Camouflage"	5/26/44
Mathilde Weingartner	"S. I. Ferns and Their Identification"	6/24/44

Field Trips: Walks to study Staten Island nature, often some specific phase of natural history, were taken as shown in the following list, giving date, area covered, leader, purpose and approximate number attending.

6/13/42 Grymes Hill	Howard Cleaves	.....	25
7/11/42 Reed's Valley	William T. Davis	.....	45

8/8/42	Meissner and Rock- land Ave., Latour- ette Park	" " "	.....	25
9/13/42	Grasmere	Frank Gunnell	Taking Colored Motion Pictures, "Days Afield"	50
10/10/42	Goodhue Estate	Dr. Frank Strauss	.....	35
11/14/42	Moravian and Eg- bertville woodland	George Canetta	Winter Seeds	25
12/12/42	Latourette Park and woodland	Carlton Beil	Winter Tree Forms and Iden- tification	22
1/9/43	Richmond, Lighthouse Hill	" "	Tree Identification	20
2/10/43	Great Kills, Trench Homestead	" "	Tracks in Snow	18
3/13/43	Arden Ave., Woods of Arden	" "	Winter Birds	24
4/9/43	Richmond, Kensico St. and Clark Ave.	" "	Spring Peepers, special walk	15
4/10/43	Moravian Cemetery, Flagg's Pond	" "	Spring Birds	30
4/18/43	Grasmere	" "	Spring Birds, spe- cial walk	22
5/2/43	Little Clove Valley	Lee Ellison	Migrating Birds, special walk	15
5/8/43	Oakwood Beach	Carlton Beil	Shore Birds	25
5/16/43	Clove Lakes Park	Lee Ellison	Warbler Migra- tion, special walk	18
6/11/43	Richmond Memorial Hospital	Howard Cleaves	Anniversary Gath- ering	40
7/10/43	Grasmere, Reed's Valley	Karl Nesslinger	Study of Flowering Plants	40
8/14/43	Clove Lake Park, Grymes Hill	Edwin Rundlett	Deciduous Trees	25
9/11/43	Bay Terrace, Crooke's Point	Carlton Beil	Shore Birds, Unu- sual Plants	45
10/9/43	Goodhue Estate	Dr. Frank Strauss		
11/13/43	Travis, Bird Sanctu- ary	Carlton Beil	Mineral Springs	30
11/13/43	St. George to Travis	Joseph Burke	All Day Hike	9
12/11/43	Richmond	Carlton Beil	Winter Aspects of Nature	12

1/8/44	Richmond to Bay Terrace	" "	Winter Birds	12
2/12/44	Richmond to Egbertville	Lee Ellison	Winter Bird Feeding	13
3/11/44	Willowbrook Park	Edwin Rundlett	Poisonous Plants	42
4/7/44	Flagg Place, Reed's Valley, Concord	Ellison & Rundlett	Geology & Mineralogy	33
5/8/44	Oakwood, Crooke's Point	Carlton Beil	Shore Birds	22
5/13/44	Moravian Cemetery to Eger Home	Edwin Rundlett	Spring Flowers	35
6/10/44	Four Corners, Fach Gardens	Lee Ellison	Rare Trees & Plants	7

Surely a definite part of the pleasure derived from these trips by the members who attended was the hospitality shown by those who made their homes the terminus of the trip. We express our appreciation to these hosts and hostesses: Mr. and Mrs. Carlton Beil, Mr. and Mrs. George Canetta, Mr. and Mrs. Roswell Coles, Mrs. Louis A. Dreyfus, Mrs. A. W. Hoffmeyer, Mrs. Dagmar Johnson, Mr. and Mrs. Karl Nesslinger, Mr. and Mrs. Stewart Ogilby, Mr. and Mrs. Raymond Safford, Mrs. William D. Spear, Dr. and Mrs. Frank Strauss.

Specimens, Reports and Observation: Pursuant to a policy adopted at the Club's executive meeting of 1/7/43, records directly relating to the natural history of Staten Island and related phenomena of definite nature interest are to be recorded in the *Proceedings* under their various headings, giving subject, by whom reported and date. Although an alphabetic arrangement of subjects has been attempted, in some cases for the sake of ease in reference related subjects have been grouped together. The asterisk (*) denotes material not recently reported or entirely new.

Astronomy

Conjunction, Moon and Venus	Cooper	11/23/43
Reflector telescope mirrors (lecture)	Arcate	1/22/44

Amphibia

Green and Leopard Frogs, hibernating	Beil	10/23/43
Spring Peepers and Wood Frogs collected on field trips	Beil	3/25/44
Red-backed and Yellow-spotted Salamanders	Ellison and Edgar Stillwell	3/25/44

*Birds***1. Field and Woodland**

Blackbird migration (fall)	Ellison	10/24/42
Cowbird, banded by Biol. Survey	Beil	11/28/42
Cedar Waxwings	Mrs. Nesslinger	11/28/42
Goldfinch Nest	Carlita Nesslinger	11/28/42
Brown Thrashers, out of season	Dr. Strauss	1/23/43
Black-capped Chickadees	Bigelow	1/23/43
Black-capped Chickadees, scarcity	Mrs. Spear	1/23/43
Crow Roost	Davis	1/23/43
Tree Sparrows	Long	2/27/43
Rose-breasted Grosbeak, preserved with formalin	Davis	2/27/43
Ruby-crowned and Golden-crowned Kinglets	Field trip	4/18/43, 4/24/43
Whip-poor-wills	Beil	5/21/43
Baltimore Oriole, nest building	Mrs. Rouse	5/21/43
Catbird, nesting	" "	5/21/43
Ovenbird's night song	Ellison	6/26/43
Redstart, female, migrating	Mrs. Coles	9/25/43
Red-breasted Nuthatches	Coles, Beil	9/25/43 12/29/43
* Red-headed Woodpecker, Grymes Hill	Stumpp	10/23/43
Hermit Thrush, late	Beil	11/13/43
Tame Crow	Coles	12/29/43
Mourning Dove	Coles	12/29/43
Yellow-bellied Sapsucker, early migration	Ellison	4/25/44
Early Thrashers and Kinglets	"	4/25/44
Bobolinks at Mt. St. Michael	"	5/26/44

2. Shore, Marsh and Bay

Little Green Heron	Blauvelt	10/22/42
" " "	Hoffmeyer	12/26/42
Black-crowned Night Herons, Bard Ave.	Ellison	1/23/43
* Ipswich Sparrow, Oakwood	Carlita Nesslinger	2/27/43
Old Squaw Duck, Tottenville	Cleaves	2/27/43
Common Loon	Beil	4/8/43
Killdeer, Flocks at Oakwood	Carlita Nesslinger	5/31/43
* Least Terns, breeding at Crook's Point	Cleaves	6/26/43
Piping Plovers, breeding at Crook's Point	Cleaves	6/2/43
* Gull pellets containing wings of Japanese Beetles	Weingartner	8/28/43

Osprey, large, catching goldfish	Rundlett	4/22/44
Killdeer at Brady's Pond	Carlita Nesslinger	4/22/44
Red-throated Loon, from Mrs. Cutting	Beil	6/24/44
Fish Crow, live specimen at meeting	Beil	6/24/44
Great Blue Heron	McCracken	7/16/44
3. Home, Lawn and Streets		
Bluebirds	Blauvelt	10/22/42
Cardinals	Coles	11/28/42
Bluebirds, fall flocks	Mrs. Nesslinger	11/28/42
Bluebirds	Mrs. Hoffmeyer	12/26/42
Bluebirds, increasing	Davis	5/25/43
“ “	Mrs. Johnson	6/26/43
Hummingbird, preserved and mounted like insect	Davis	6/26/43
4. Birds of Prey		
Great Horned Owl	Beil	12/26/42
Barn Owl and Pellets	Carlita Nesslinger	1/23/43
5. Breeding and Nesting Birds		
* Wood Duck, nesting	Cleaves	7/24/43
Carolina Wren, nesting	“	
* Oven Bird, nesting	“	6/24/44
* Prairie Horned Lark, nesting	“	7/22/44
6. Rare Birds		
* Glossy Ibis	Cleaves	5/14/44
7. Game Birds		
* Hungarian Partridge	Cleaves	12/26/42
8. Protection and Feeding		
Visit to Sanctuary	Beil	11/13/43
Feeding at Richmond	“	2/28/44

Botany

1. Trees

Hybrid Oaks	Davis	10/24/42
Dwarf Willow, <i>Salix tristis</i>	“	10/24/42,
	“	9/18/43
<i>Magnolia glauca</i>	“	10/24/42.
	“	9/18/43
	“	11/28/42
Mockernut, large leaves of, <i>Ptelea trifoliata</i>	Cooper	11/28/42
Cedar of Lebanon, Eltingville	field trip	3/13/43
Red Mulberry, in flower	Long	5/21/43
Purple Willow, <i>Salix purpurea</i>	field trip	7/10/43
Bartram Oak, Clove Lake	“ “	8/16/43
Black Walnut	Davis	8/28/43
Sugar Maple, <i>Acer saccharum</i> Sea-view Valley, 1 specimen	“	8/23/43

Amur Cork Tree, <i>Phellodendron amurense</i>	Ellison	10/23/43
Silverbell Tree, (seeds) Clove Road	"	10/26/43
Witch Hazel	field trip	11/23/43
Cockspur Thorn, <i>Crataegus crusgalli</i>	" "	1/8/44
<i>Ptelea trifoliata</i> , found on field trip	Rundlett	4/18/44
* Epaulette Tree, <i>Pterostyrax hispida</i> Todt Hill Rd. and Schmidts Lane	Rundlett	6/10/44
Deodar Cedar	"	7/22/44
2. Flowering Plants		
Double Dahlia	Blauvelt	10/24/42
Night-blooming Cereus, Crayon Drawings of Opening Flowers	Varon	10/24/42
Swamp Milkweed, Bay Terrace	Beil	10/24/42
Virginia Beard Grass, Seeds	"	11/28/42
Coltsfoot, First of Season, 3/10/43	Nesslinger	3/27/43
Duckweed, Prolific in Reeds Valley	field trip	7/10/43
Asters and Goldenrods	Cooper	8/23/43.
		9/25/43
Knotweeds	Ericson	8/28/43
Man-of-the-earth, <i>Ipomoea pandurata</i>	Davis	9/25/43
* Mint, <i>Mentha citrata</i>	Ericson	9/25/43
Spotted spurge, <i>Euphorbia maculata</i>	"	10/23/43
<i>Sagittaria latifolia</i>	Cooper	11/27/43
Sheep Laurel	"	11/27/43
* Dandelion, last of season	Ellison	12/10/43
Cathbrier, <i>Smilax glauca</i> , untouched by frost	field trip	1/8/44
Hybrid Morning-glory	Ericson	1/22/44
Shrubs of <i>Rhus</i> genus	Rundlett	3/11/44
Skunk Cabbage	Ericson	3/25/44
Poison Sumac, Poison Ivy and related Poison Plants	field trip	4/8/44
* Hellebore	Beil	4/22/44
Watercress	Carlita Nesslinger	4/22/44
Lesser Celandine	Rundlett	5/13/44
Field Chickweed	Ericson	5/26/44
Giant Jap Knotweed	"	5/26/44
* Multiple Tulips	Ellison	5/26/44
Bladder Campion	"	6/10/44
<i>Polonisia trachysperma</i>	Ericson	7/22/44
3. Flowerless Plants (Cryptogami)		
<i>Ferns</i>		
Royal Fern	field trip	7/10/43
Marsh Fern	" "	7/10/43

American Shield Fern	" "	7/10/43
Crested Shield Fern	" "	11/13/43
<i>Fern Allies</i>		
<i>Selaginella apus</i> , persistent in discarded terrarium	Davis	11/28/42
<i>Lichens</i>		
<i>Cladonia cristatella</i> and <i>pyxidata</i>	Ellison	1/8/44
<i>Hepaticas</i>		
<i>Riccia fluitans</i> , Reed's Valley	Beil	7/10/43
<i>Fungi</i>		
Giant Puffball <i>Calvatia</i> , Short Term Camp	Ellison	10/24/42
<i>Schizophyllum commune</i>	Beil	11/28/42
<i>Polyporus betulinae</i>	Ellison	4/22/44
Earth-star, <i>Geaster hygrometricus</i>	"	4/22/44
<i>Myxomycetes</i>		
<i>Arcyria cinerea</i> on oak log, first of season	Ellison	6/26/43
<i>Stemonitis axifera</i> , on telephone pole	Beil	6/26/43
<i>Diatoms</i>		
Fossil diatoms	Burke	3/27/43
<i>Algae</i>		
<i>Draparnaldia</i> , in Willowbrook Lake	Cooper	3/27/43
<i>Conchology</i>		
Reclassification of Museum collection	Coles	11/28/42
* English Edible Cockle, in sand ballast from returning ships	Weingartner	1/23/43
Fresh Water Mussel, Clove Lake	"	4/24/43
<i>Nassa obsoleta</i> , shell inhabited by hermit crab	Davis	5/21/43
Books on shells	Weingartner	8/28/43
<i>Macoma</i> , locally rare	"	9/11/43
<i>Palladina</i>	Davis	10/23/43
* European shells, Oakwood Beach	Weingartner	2/26/44
Tree Snails, species <i>Liguus</i>	Koestner	2/26/44

*Insects*1. *Cicadas*

<i>Okanagana rimosa</i>	Davis	2/27/43
Seventeen-year Cicada nymph, dug up unusually early	Nesslinger	3/27/43
<i>Quesada gigas</i>	Davis	4/24/43
Genus <i>Tibicen</i> , late in appearance	"	7/24/43
<i>Platypedia balli</i> Davis	"	12/29/43

<i>Okanagana balli</i> Davis	"	12 20 43
Seventeen-year Cicadas, <i>Magici-</i> <i>cada septendecim</i>		5 20 44
Seventeen-year Cicadas, <i>Magici-</i> <i>cada septendecim</i> , late and scarce		14 44
2. Other Orthopterous Insects		
Walking-sticks, <i>Monomeria atlantica</i> Davis		11 28 42 3 25 43
<i>Diapheromera atlantica</i> and <i>femorata</i>		3 25 43
Katydid, <i>Neoconocephalus exilis-</i> <i>similis</i>		3 25 44
Tree Cricket, <i>Oecanthus excitationis</i>		
3. Gall Insects		
Goldenrod gall pupa	Ellison	10 23 43
4. Hymenoptera		
Destruction of hive colonies of bees by <i>Sphexius speciosus</i>	Ellison	10 24 42
Mud-dauber Wasp, cells built on cloth	Cleaves	10 20 43
Cicada Killers, <i>Sphexius speciosus</i>	Davis	7 24 43
Insect Camouflage, Wasps	Kumiller	12 27 43
5. Lepidoptera		
Common sulphur butterfly, late in season	Beil	11 28 43
<i>Diacrisia virginica</i>	Davis	7 20 44
Red-margined Luna Moth, <i>rubro-</i> <i>marginatus</i>		3 25 44
Mourning-cloak Butterfly	Beil	4 22 44
<i>Papilio asterias</i> and <i>troilus</i>	Mrs. Gomer	8 24 44
6. Coleoptera		
Japanese Beetle Control, bacterial	Kumiller	10 24 42
<i>Chalcophora georgiana</i> and <i>virgin-</i> <i>iensis</i>	Davis	11 27 43
Elder bush beetle, <i>Desmocerinus</i> <i>palliarus</i>	Burke	2 24 44
<i>Colasoma scrutator</i>	Hart	1 24 44
Elm leaf Beetle	Davis	1 24 44
Spiders		
Fishing Spider, Egbertville	Mrs. Plumb, Beil	7 20 43
Lower Arthropoda (Crustacea)		
Hermit Crabs, long armed, in shell of <i>Nassa obsoleta</i>	Davis	5 20 43
11		
Muskrat Lodge, Kreischerville	Carlita Nesslinger	11 28 42

Gray Squirrels, nests in trees at Zoo	Rundlett	1/23/43
Recording Sounds and Cries of Bats	Miller	4/24/43
* Porpoises offshore at Tottenville	Cleaves	7/24/43
Muskrat, foraging at Richmond	Ellison	12/26/43
Golden Hamsters, lecture	Rundlett	2/26/44

Mineralogy

Clay Concretions from Rossville	Abbott	4/24/43
Mineral Springs, Bird Sanctuary	Davis	11/27/43

Protochordata

Tunicate "Sea squirt," <i>Molgula pellucida</i>	Ellison	10/26/43
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Reptilia

Mud Turtle	Davis	9/25/43
Diamond-backed Terrapin	Cleaves	7/22/44

Paleontology

Fossil Shells, <i>Spirifer</i> and Leaf Imprints, <i>Alethopteris?</i> from Oakwood	Carlita Nesslinger	5/26/44
Echinoid, <i>Echinocorys ovata?</i> Cretaceous, in flint ballast at Oakwood	" "	5/26/44

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Abbreviations: l-letter; b-book; bk-booklet; ex-excerpt; p-paper; c-column.

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PROCEEDINGS
OF THE
STATEN ISLAND INSTITUTE
OF
ARTS AND SCIENCES

EDITED BY
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Issued November 1, 1946

Staten Island, N. Y.

THE SCIENCE PRESS PRINTING COMPANY

Lancaster, Pa.

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OF THE
STATEN ISLAND INSTITUTE
OF
ARTS AND SCIENCES

VOLUME X

OCTOBER 1944—MAY 1946

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PUBLISHED BY THE
STATEN ISLAND INSTITUTE OF ARTS AND SCIENCES
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LANCASTER, PENNSYLVANIA

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OCT., 1944-MAY, 1946

PARTS 3, 4

The Genus *Talorchestia* (Beach Fleas) on Staten Island

WILLIAM F. RAPP, JR., and JANET L. C. RAPP

On the evening of July 3, 1944, the authors sat with the late William T. Davis in the Museum attic and planned the ground work for this paper. Mr. Davis told us that back in 1910 he had sent his collection of crustacea to Henry W. Fowler for use in preparation of the work entitled "The Crustacea of New Jersey."

We then consulted Fowler's work and found that Mr. Davis had taken *Talorchestia longicornis* on Staten Island. We then planned to make systematic collections on the beaches which were more or less undisturbed.

The first area studied was Oakwood Beach, which is a long sand spit on the eastern side of the island. At the time our collections were made, July 4, 1944, the beach was well covered with drift wood. Specimens of *Talorchestia* were very abundant under the drift wood. Unfortunately, Oakwood Beach as a habitat for *Talorchestia* is doomed, because New York City is building a park there. This will result in the cleaning up of the drift wood which is necessary to the life of *Talorchestia*.

On July 23, 1944, we went to the southern end of the island and worked our way eastward. The first area collected in lay between Tottenville and Ward's Point. Near Tottenville this area borders on the Arthur Kill and near Ward's Point the Arthur Kill joins Raritan Bay. There is a narrow beach with little drift wood but much garbage and refuse. As one nears Ward's Point the beach widens and less garbage and refuse is found.

We next collected in the area between Ward's Point and the Butler Estate. This entire area borders on Raritan Bay and the

beach varies in width. The texture of the beach varies from a fine sand to a coarse gravelly sand; *Talorchestia* is most abundant where the sand is fine.

Some collecting was done in the area between the Butler Estate and Prince's Bay. In general, collecting in this area was very poor. The beach is very narrow with a steep cliff rising about eight feet from the high tide line. Because the beach is quite gravelly and in some areas covered with large boulders, it is in general unsuited for *Talorchestia*.

The two species of the genus *Talorchestia* are the common "beach fleas" of Staten Island. They are easily found by turning over logs and drift wood lying on the beach just above the high tide mark. They make burrows in the sand, the depth depending on the distance the animal must go to reach moist sand. When first aroused they move sluggishly, apparently dazed. In a few minutes they start leaping very rapidly and then begin to burrow. Fowler (1912: 217) states that since they are strongly attracted to light, the easiest way to procure large numbers is to place a lantern on the beach. Large quantities will gather about the lantern where they may be easily collected and preserved.

The authors collected all their specimens under various types of debris as they were interested in seeing where they lived. After the specimens were caught by hand and placed in bottles of 70% alcohol, they were taken home for further study.

Talorchestia is a genus of Crustacea belonging to the order Amphipoda. They may be easily separated from other amphipods by their toothed mandibles, two eyes, and by the first pair of antennae being shorter than the peduncle (long basal segments) of second. There are two species occurring on Staten Island and these may be separated by the following key adapted from Fowler's (1912: 215):

- a. Eye moderate; second antennae in male about as long as body; second gnathopods in male oblong, palm with large lobe near middle.
Longicornis (Say)
- aa. Eye very large; second antennae in male only one-third as long as body; second gnathopod subovate, palm with no lobe near middle.
Megalophthalmus (Bate)

The preceding key will only work for males. The females are very difficult to determine and can only be done accurately by a

specialist. If one plans to do serious work in this group he should consult the works by Fowler and Holmes listed in the bibliography.

Fowler (1911: 217) reported specimens of *Talorchestia longicornis* (Say) taken by Mr. W. T. Davis on Staten Island, but records no specimens of *Talorchestia megalophthalmus* (Bate) from Staten Island.

Location and Date	<i>longicornis</i>		<i>megalophthalmus</i>	
	♂	♀	♂	♀
Oakwood Beach				
4 July 1944	1	84	5	0
Tottenville to Ward's Point				
23 July 1944	0	48	19	0
Ward's Point to Butler Estate				
23 July 1944	4	52	28	0
Butler Estate to Prince's Bay				
23 July 1944	0	35	11	0

A total of 287 specimens of *Talorchestia* were collected, 78% of them were *Talorchestia longicornis* (Say) thus making it the dominant species. It is interesting to note in this connection that during the field work only one other species of amphipod was taken, *Amphithoe valida* (Smith). This species had never been reported from Staten Island which is apparently the southern end of its range.

We wish to acknowledge the help we received from Mr. C. R. Shoemaker, of the United States National Museum, who was kind enough to check the determinations of the females of *T. longicornis*. Mr. Henry W. Fowler of the Academy of Natural Sciences of Philadelphia gave us various suggestions. To both of these men we are deeply indebted.

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FOWLER, HENRY W. 1912. The Crustacea of New Jersey. New Jersey State Museum Report for 1911.

Although the nomenclature is out of date, this is by far the best work on the crustacea of this area, because Fowler included all the specimens William T. Davis was able to find on Staten Island. It has excellent drawings of all species discussed.

HOLMES, S. J. 1903. Synopsis of the Amphipoda. American Naturalist, vol. 37, p. 267.

Merely a key to species.

HOLMES, S. J. 1904. The Amphipods of Southern New England. Bull. U. S. Fish Commission, vol. 24, p. 457.

Gives detailed descriptions of the species of amphipods occurring on the north-eastern coast of America. Out of date but the best general work on the group.

PAULMIER, FREDERICK C. 1904. Higher Crustacea of New York City. 58th Annual Report, N. Y. State Museum, vol. 4, or Bulletin 91 of N. Y. State Museum.

Gives brief descriptions of species common in New York City area, exclusive of Staten Island.

Type Material and Specimens Taken from the Davis
Collection of Cicadas, Staten Island Museum¹

November 7, 1945—JOHN C. PALLISTER

<i>Name</i>	<i>Type</i>	<i>Allotype</i>	<i>Paratypes or specimens</i>
<i>Tibicen bifida simplex</i> n.v.	Male		
<i>T. chisosensis</i> n.s.	Male	Female	
<i>T. duryi</i> n.s.	Male	Female	
<i>T. hidalgoensis</i> n.s.	Male		
<i>T. inauditis</i> n.s.	Male		
<i>T. knighti</i> n.s.	Male		
<i>T. lyricen virescens</i> n.v.	Male		Paratype—female
<i>T. marginalis pronotalis</i> n.v.		Female	Paratype—male
<i>T. minor</i> n.s.	Male		Female—specimen
<i>T. parallela</i> n.s.	Male		
<i>T. paralleloides</i> n.s.	Male		Female—specimen
<i>T. robinsoniana</i> n.s.	Male	Female	
<i>T. sugdeni</i> n.s.	Male		
<i>T. tigrina</i> n.s.	Male	Female	
<i>T. viridifascia bequaerti</i>	Male		Female—specimen
<i>Diceroprocta apache ochroleuca</i> n.v.	Male	Female	
<i>D. averyi</i> n.s.	Male	Female	
<i>D. bibbyi</i> n.s.	Male	Female	
<i>D. bicolor</i> n.s.	Male		Female—specimen
<i>D. canescens</i> n.s.	Male	Female	
<i>D. fraterna</i> n.s.	Male		
<i>D. lucida</i> n.s.	Male	Female	
<i>D. marevagans</i> n.s.	Male		Female—specimen
<i>D. operculabrunnea</i> n.s.	Male	Female	
<i>D. oculata</i> n.s.	Male		
<i>D. pinosensis</i> n.s.	Male		Female—specimen
<i>D. pusilla</i> n.s.	Male		
<i>D. tepicana</i> n.s.	Male	Female	

¹ On October 15, 1945, the Board of Trustees of the Institute approved the transfer to the American Museum of Natural History of the type specimen and one specimen of the opposite sex of the species remaining in the Davis cicada collection. The transfer was made on Nov. 7, 1945, by Mr. John C. Pallister of the American Museum of Natural History and the material accepted with "a deep sense of gratitude" by Mr. Herbert F. Schwarz, Acting Chairman of the Department of Insects and Spiders. In addition to the list above, Mr. Pallister has appended a list of types which presumably should have been in the Davis collection. Any information as to the location of these types will be appreciated by the Museum.

<i>Name</i>	<i>Type</i>	<i>Allotype</i>	<i>Paratypes or specimens</i>
<i>D. texana lata</i> n.v.	Male		Female—specimen
<i>D. cinctifera limpia</i> n.v.	Male		Female—specimen
<i>Cacama variegata</i> n.s.	Male	Female	
<i>Cicada arizona</i> n.s.	Male		Female—specimen
<i>C. bifida</i> n.s.	Male	Female	
<i>C. castanea</i> n.s.	Male	Female	
<i>C. chisos</i> n.s.		Female	Male—paratype
<i>C. cultriformis</i> n.s.		Female	Male—specimen
<i>C. engelhardti</i> n.s.	Male	Female	
<i>C. eugraphica</i> n.s.	Male		Female—specimen
<i>C. marginata dealbata</i> n.v.	Male		Female—specimen
<i>C. pruinosa latifasciata</i> n.v.	Male		
<i>C. texana</i> n.s.	Male		Female—specimen
<i>Proarna cocosensis</i> n.s.		Female	
<i>Fidicina compostela</i> n.s.	Male		Female—specimen
<i>Herrera laticapitata</i> n.s.		Female	
<i>H. tugubrina compostelensis</i> n.v.	Male	Female	
<i>Okanagana annulata</i> n.s.	Male	Female	
<i>O. aurora</i> n.s.	Male	Female	
<i>O. formosa</i> n.s.	Male	Female	
<i>O. fratercula</i> n.s.	Male		
<i>O. fumipennis</i> n.s.	Male	Female	
<i>O. gibbera</i> n.s.	Male	Female	
<i>O. luteobasalis</i> n.s.	Male	Female	
<i>O. mariposa oregonensis</i>	Male	Female	
<i>O. mercedita</i> n.s.	Male		Female—paratype
<i>O. minuta</i> n.s.	Male		
<i>O. arctostaphylae opacipennis</i> n.v.	Female		Male—specimen
<i>O. pallidula nigra</i> n.v.	Male		
<i>O. schaefferi tanneri</i> n.v.	Male		
<i>O. sugdeni</i> n.s.		Female	
<i>O. synodica nigra</i> n.v.	Male	Female	
<i>O. tristis rubrobasalis</i> n.v.	Male	Female	
<i>O. utahensis</i> n.s.	Male	Female	
<i>O. venusta</i> n.s.	Male	Female	
<i>O. viridis</i> n.s.	Male	Female	
<i>O. wymorei</i> n.s.	Male		
<i>Okanagodes gracilis</i> n.s.	Male	Female	
<i>O. gracilis pallida</i> n.v.	Male	Female	
<i>O. gracilis viridis</i> n.v.	Male	Female	
<i>O. terlingua</i> n.s.	Male		Female—specimen
<i>Clidophleps tenuis</i>	Male	Female	
<i>C. wrighti</i>	Male	Female	
<i>Platypedia australis</i> n.s.	Female		
<i>P. mariposa</i> n.s.	Male	Female	

<i>Name</i>	<i>Type</i>	<i>Allotype</i>	<i>Paratypes or specimens</i>
<i>P. mohavensis</i> n.s.	Male	Female	
<i>P. mohavensis rufescens</i> n.v.	Male	Female	
<i>P. putnami keddiensis</i> n.v.	Male	Female	
<i>P. putnami lutea</i> n.v.	Male	Female	
<i>P. rufipes angustipennis</i> n.v.	Male	Female	
<i>P. rufipes bernardinoensis</i> n.v.	Male	Female	
<i>P. similis</i> n.s.	Male	Female	
<i>P. tomentosa</i> n.s.	Male		
<i>Melampsalta calliope floridensis</i> n.v.	Male	Female	
<i>M. kansa</i> n.s.	Male	Female	
<i>M. texana</i> n.s.	Male		
<i>Beameria wheeleri</i> n.s.	Male		
<i>Carineta martiniquensis</i> n.s.	Male	Female	
<i>Chineria mexicana</i> n.s.	Male	Female	
<i>C. similis</i> n.s.	Male	Female	
<i>Daza nayaritensis</i> n.s.	Male	Female	
<i>Uhlerodes maestra</i> n.s.	Male	Female	

Cicadas Described by Wm. T. Davis which Should Be in the
Davis Collection or Place of Deposit Uncertain

	<i>Type</i>	<i>Allotype</i>
<i>Tibicen davisi harnedi</i> n.v.	Davis Coll.	Davis Coll.
<i>T. pruinosa winnemana</i> n.v.	Probably Davis Coll.	Probably Davis Coll.
<i>Diceroprocta biconica obscurior</i> n.v.	Davis Coll.	Davis Coll.
<i>D. cleavesi</i> n.s.	Type male deposited Davis Coll.	
<i>Cacama carbonaria</i> n.s.	Type male deposited Davis Coll.	
<i>Okanagana hirsuta catalina</i> n.v.	Type male deposited Davis Coll.	
<i>O. pallidula</i> n.s.	Type male deposited Davis Coll.	
<i>O. rotundifrons</i> n.s.	Type female deposited Davis Coll.	
<i>O. rubrovenosa rubida</i> n.v.	Probably Davis Coll.	Probably Davis Coll.
<i>O. simulata</i> n.s.	Davis Coll.	Davis Coll.
<i>Platypedia barbata</i> n.s.	Davis Coll.	Davis Coll.
<i>P. falcata</i> n.s.	Davis Coll.	
<i>P. laticapitata</i> n.s.	Davis Coll.	Davis Coll.
<i>P. scotti</i> n.s.	Probably Davis Coll.	Probably Davis Coll.
<i>Neoplatypedia constricta</i> n.s.	Davis Coll.	Davis Coll.

Jasper F. Cropsey¹

PERCY LEASON

The history of painting is the history of three kinds of painters: those who make new discoveries in technique and philosophy; those who make use of the knowledge of their time and thus help to preserve tradition; and those who romantically feel that some early stage was better and try to drag painting back to it. Men like Velasquez, Claude, Constable and Corot were definitely of the first kind; the men of the Hudson River School to which Cropsey belonged were partly of the first kind and partly of the second; and today we have the last kind all around us proudly calling themselves "moderns" and practicing infantile art.

But in Cropsey's day painting, and especially landscape painting, was a very healthy and robust thing. His group of Pioneers may not have added anything new to technique and philosophy, but they broke new ground in turning away from the conventions of European subject matter and by going direct to America's mountains, rivers, woods and plains and revealing their beauties. They did more than any others have done in this struggle for independence, which is always difficult and necessary in the art of a new country. And Cropsey and his friends did more than any other group to introduce to this hemisphere all that was best in technique and philosophy up to their time. It is chiefly for these reasons that the Institute of Arts and Sciences should be glad to have the "View from Todt Hill" and any other Cropseys we can get. Then there are, of course other reasons why we should treasure this painting. It is an early Staten Island view, its distinguished painter was born here, and he was the first Staten Islander to win an international reputation in art.

Cropsey was born at Rossville on February 18, 1823, and commenced to draw while very young. He seems to have been a remarkable child and he soon distinguished himself. Architecture was chosen for his profession, he enrolled at the Mechanics Institute in New York and when only thirteen received a diploma for a model of a house. The same model won another diploma from the American Institute and his work and youth brought him definitely into the

¹ This talk was given by Mr. Leason at the presentation of the Cropsey painting, April 14, 1946.

limelight. It secured him a position in an architect's office and young Jasper stayed there five years.

But he was not altogether contented. He had already painted the fields, trees and skies from his father's place at Rossville and with a great urge to continue that kind of adventure, he gave his spare time to instruction from Edward Maury, a well-known landscape painter of that time.

When he was twenty-four he sailed for England and the training to be had in Europe. The next few years were spent in London, Paris and Italy studying the old masters, and in viewing the sights of Switzerland. Part of the time he traveled with W. W. Story and Christopher Pearse Cranch, and he was always painting. He made many friends, amongst them the Brownings and the rising high priest of art in London, John Ruskin. There seems to be little doubt that Cropsey was greatly influenced by Ruskin, or rather by Turner, whose work Ruskin made the very gospel of landscape painting. Ruskin's two-volume *Modern Painters* was chiefly the story of Turner; it was and still is read wherever English is spoken and it built Turner's reputation into a tremendous, world-wide thing. His influence would have been a difficult one for any young man to escape.

Cropsey was not amongst the first of the Hudson River school. He was only three years old when Thomas Cole, in 1826, packed his paints and brushes, went walking up the Hudson Valley and settled in the town of Catskill. Cropsey did not join those who had followed Cole until the eighteen-fifties, when he returned from Europe. Then he was soon amongst the first half dozen important members, and remained with the movement during the rest of his life. Cropsey received many honors both here and abroad, winning various medals. He was presented at the court of Queen Victoria, he exhibited at the Royal Academy, was intimate with leaders in art and letters in England and a Fellow of the Society of Letters and Arts, and was back in London in 1862, when he was Assistant Commissioner at the International Exhibition. In this country he was an Associate of the National Academy, a founder of the American Water Color Society and Honorary Member of the Pennsylvania Academy of Fine Arts. His work now hangs in The Metropolitan Museum of Art, The Corcoran Gallery, The Chicago Gallery, in many private collections; and now, in the Staten Island Institute of

Arts and Sciences, he has come home, so to speak. Cropsey also won success in architecture, designing many buildings and homes in the East and middle West. He is still remembered as the designer and superintendent of building of the Sixth Ave. Elevated Railway Stations. It is pleasant to recall that I arrived in this country just in time to sit in these monuments to Cropsey's memory before they disappeared.

It is the fashion today to take great pride in the claim that one's art is entirely one's own; we forget the wisdom of that great American, Whistler, who listened to a mother boast that her son was entirely self-taught and then offered his sympathy because the son had been so unfortunate in having a teacher so ignorant. In Cropsey's day, individuality was not the supreme virtue in art; knowledge was, and young men took pride in submitting to what they regarded as the best influence. In understanding Cropsey's art it is therefore worth while to consider the influences of his day.

In 1823 when Cropsey was born, Constable was 47, Turner 48, Corot 27 and Raeburn had just died. These facts made it a very good time for a painter, especially a landscape painter, to be born. Raeburn and Constable had rediscovered most of the principles of Velasquez, which were equally useful in all kinds of subject matter, and which had been, I believe, one of the most significant discoveries of the Renaissance. Others might not adopt them, but the work these principles helped to produce, especially in the hands of Raeburn and Constable, preserved a deep respect for that usually neglected element, tone, that is, natural light and shade, without which there can be no echo of the vividness of real light and life. Turner's best work also had this quality, and his influence and that of Constable had already spread widely when Cropsey arrived as an impressionable youth in Europe. Constable had then been dead nine years, but his influence was still very much alive with Corot and others of the rising Barbizon school; they had eagerly taken the hint from him and adopted the practice of going direct to and accepting nature as she was, instead of fabricating large landscapes in the studio—a traditional practice that Constable himself had not quite escaped.

But it is unlikely that Corot would influence Cropsey; since Corot did not sell a picture until he had passed fifty he could not have had much fame until after Cropsey had returned to America. As Edi-

son said, it takes twenty-five years for good ideas to reach the multitude, and that includes art critics, the publicity men of art. As he wandered about the European galleries studying the old masters, Cropsey seems to have embraced something of what he saw in Claude, contemporary of Rembrandt and Velasquez, who was the first to make landscape the whole subject of a painting; it had previously been used only as background to figures. Then there were Claude's contemporaries in Holland, Ruysdael, Hobbema and others, the eighteenth-century Canaletto, so-named for his paintings of canals, and Crome, Richard Wilson, Cotman and others of England, all of whom represented the fabric of the best landscape tradition in Cropsey's day. It seems to have left its mark in his work, but it was modified by what he had learned from Turner, and Constable and from Nature herself at first hand.

We could in fact say that with the Hudson River men, including Cropsey, the desire for the truths of Nature's appearances was greater than any desire to conform to tradition. But some of them occasionally warped these truths more or less, to fit them into certain conventions which had come down from the earlier landscapists. If one painted, say, Clove Lake, one did not do it as it might be done today—by sticking to the truth of the lay of the land. It was dramatized somewhat. The hills were raised a few feet, the lake widened a bit, perhaps a waterfall added; one did not, as today, take in only what could be comfortably handled, but half the countryside; the ruins of some old mansion might be added to give what was called nobility and a great expanse of busy, dramatic sky helped the same quality; if there were no humans or cows or horses present, then they were added for the sake of interest. And the common practice was to do all this in the studio by using various pencil and other sketches to make a large composition and inventing gaps between them.

All of these practices persisted in advanced landscape art until Corot and his fellows, and Manet and the impressionists threw them overboard for the sake of the greater vitality one got by letting Nature do all the inventing—a thing she always does more richly than any artist. But although we may see all the old tendencies in this canvas of Cropsey's, we should remember to judge a picture in its epoch. If we do that, we will find excellent qualities and something that represents a very important milestone in American art.

Capt. "Bob" Bartlett

MABEL ABBOTT

Captain Robert Abram Bartlett, explorer, lecturer and writer, died Sunday, April 28, at 2:24 A.M. at the Columbia Presbyterian Medical Center, in New York City. His death removed an important and also picturesque figure from the field of scientific study of the Far North; and it brought to Staten Island and to this Institute a sense of personal loss as well. Staten Islanders liked to know that from 1926 to 1941 his little schooner, the Effie Morrissey, spent her winters at the McWilliams shipyard at the foot of North Burgher Avenue, West New Brighton; and they followed her progress each summer in the news and radio despatches with a home-town interest. Members of our staff felt on terms of personal and friendly acquaintance with "Captain Bob," and between him and our late President Emeritus, William T. Davis, there existed a mutual friendship and admiration, to which he testified publicly more than once.

Captain Bartlett was born in Brigus, Newfoundland, August 15, 1875, the son of William James and Mary J. (Leamon) Bartlett. He was educated in the Brigus schools and at the Methodist College of St. Johns, Newfoundland. His explorations began in 1897-8 when he wintered with Robert E. Peary at Cape d'Urville, Kane Basin. His best-known exploit, of course was his voyage as commander of Peary's ship, the "Roosevelt," in 1905-09, when he played an indispensable part in the reaching of the North Pole. Peary was much criticized for taking Matt Henson instead of Bartlett on his last dash, but Bartlett always disclaimed any bitterness. Another voyage which made history was that of the "Karluk," which was crushed in the ice in January, 1914, Captain Bartlett reaching Wrangel Island with 17 survivors, then crossing the ice to Siberia with one Eskimo companion and returning with a rescue party. In 1917 he became Marine Superintendent of the Army Transport Service, New York, in which position he served during World War I; and during World War II he was constantly engaged in important work for the Government. His many expeditions occupy a long section in Who's Who in America. After he acquired the "Morrissey," he sailed sometimes under the sponsorship of men who wished to indulge in big-game hunting in the North, and sometimes

on expeditions to gather data and material for the American Museum of Natural History, the Museum of the American Indian, Heye Foundation, and other scientific bodies. With him on these cruises he took selected groups of young men who eagerly paid for the privilege of helping to work the ship under the expert direction of Captain Bob, and helping the scientists collect and care for their material. One of these groups early included Junius Bird of Rye, then just out of college, whom Mr. Davis had known intimately from his childhood and for whom he had a deep affection. Bird soon became one of Bartlett's valued assistants, sailing in the combined capacity of "archaeologist and engineer," and ultimately himself headed expeditions into other parts of the globe for the American Museum and the Museum of the American Indian. Bird has spoken before the Staten Island Institute of Arts and Sciences several times. He has contributed to our collections, and was another bond between us and the Bartlett expeditions.

Captain Bartlett and Mr. Davis met not infrequently, and the Captain sent messages to him from the North and liked to joke him about his Cicadas. He spoke on Staten Island several times. Under the auspices of the Women's Auxiliary of the Institute he spoke and showed motion pictures on November 19, 1938. And on February 17, 1945, only a month after Mr. Davis' death, Captain Bob came again to the Institute's platform. He was white-haired now, but as bronzed and sturdy as ever. "Generally," he announced, "I have to be careful about what I say, but here I'm among my friends and I don't give a damn what I say."

He was in fine form, and breezed along with yarns, jokes and memories, until, toward the end of the talk, he grew suddenly serious. He had been re-reading "Days Afield," of which Mr. Davis had given him a copy. He paid a warm tribute to "my friend, William T. Davis," and concluded in tones that could have been heard above an Arctic storm: "And I want to tell you that that's the finest d— I mean the finest book I ever read. It's one of the greatest books ever written. The man who wrote that book, I want to tell you he was a great writer; everybody ought to *have* to read that book."

And now the old sailor is gone too; and Junius Bird, knowing and loving both men, showed to the Rev. Henry Darlington, rector of the Church of Heavenly Rest, in Manhattan, the second edition

of "Days Afield," and Dr. Darlington read, at the services in Christ Church Methodist, the poem which closes the book, ending:

"But the glorious sun is setting
And the day is no longer mine;
Could I but turn the hour-glass
And hold the sands of time."

The Newt—*Triturus viridescens viridescens*

GEORGE B. WILMOTT

The life history of the newt has always been interesting to the herpetologist and somewhat puzzling to the layman. Some of the earlier herpetologists were themselves confused by the newt (aquatic stage) and the eft (terrestrial stage). In comparatively recent years there have been differences of opinion among the authorities of our own time.

All species of newts in the United States are of the genus *Triturus*. They seem to fall into two rather distinct groups divided from each other by the Rocky Mountains. Newts of the Pacific Coast states are uniformly colored above and on the sides, without spots or stripes; those of the eastern states are not uniform in coloring and are variously spotted and striped. Moreover, the Pacific Coast newts closely resemble some species of eastern Asia while those east of the Rockies are more like those of Europe. It is with the newts of our eastern states and more particularly with *Triturus viridescens viridescens* (Rafinesque) that we are concerned.

There are three stages in the development of this salamander after hatching from the egg: an aquatic larva, a juvenile terrestrial form called "Eft," and an adult aquatic stage known as "Newt." For a long time the eft and the newt were classified as two different salamanders.

Constantine S. Rafinesque (1783–1840) first described this newt scientifically as *Triturus viridescens* in the *Annals of Nature*, Lexington, Ky., March, 1820. In erecting the genus *Triturus* he included five species, two of which are *Triturus viridescens* and *Triturus miniatus*. Here we see that two stages of one salamander are not recognized as one and the same creature, but are considered as two entirely different species. Apparently he was not completely satisfied with this division for in writing further of *Triturus viridescens* he says, "It must form a peculiar subgenus *Diemyctylus*, . . ." and on the same page he proposes that the subgenus name *Notophthalmus* be applied to *Triturus miniatus*. Now we find *Triturus* (*Diemyctylus*) *viridescens* and *Triturus* (*Notophthalmus*) *miniatus* all heaped on this one little animal.

Then for a number of years there follows a variety of different

names for either one or both forms until we come to Edward D. Cope's "Checklist of North American Batrachia and Reptilia," published by the Department of the Interior, Washington, D. C., 1875. Here the generic name of *Triturus* has been abandoned and instead *Diemyctylus* (formerly a subgeneric name) is used. At the same time the species names are changed around and we are faced with "*Diemyctylus miniatus* subspecies *miniatus*" and "*Diemyctylus miniatus* subspecies *viridescens*." However, at this point it is evident that it was suspected or realized that the two forms are conspecific.

In 1889 the Smithsonian Institution published Cope's "The Batrachia of North America," and in 1898 "The Crocodilians. Lizards and Snakes of North America." In these two volumes we have a truly monumental and epoch-making work in the field of herpetology. But even here inaccuracy creeps in. The eft and the newt are now recognized as two forms of a single subspecies, *Diemyctylus viridescens viridescens*, with the two stages receiving the form names of *Miniatus* for the eft and *Viridescens* for the newt. At the same time Cope speaks of the difference as a "Seasonal character," which to some extent is correct but not entirely so, as will be shown later. It is regrettable that here he makes some bad slips. The section on this salamander starts out rightly enough with *Diemyctylus viridescens viridescens* for a heading, listing the two forms properly, but on succeeding pages he deliberately labels his illustrations of the two forms as *Diemyctylus viridescens viridescens* and *Diemyctylus miniatus miniatus* to be followed a couple of pages later with lists headed *Diemyctylus viridescens miniatus* and *Diemyctylus viridescens viridescens*.

Subsequently Rafinesque's generic name of *Triturus* was restored according to the accepted rules of nomenclature and we now accept *Triturus viridescens viridescens* as correct.

This particular newt has quite a wide range in eastern North America. It may be found through a considerable part of Ontario, Quebec, and New Brunswick in Canada; then southward through the eastern states into parts of North and South Carolina, Georgia, and Alabama; thence northward into Indiana and Michigan.

The adult aquatic newts are to be found in ponds, quiet pools in brooks, and in swamps and marshes, either in open or wooded areas. The efts usually inhabit fairly moist or damp woodlands. The

larvae are, of course, found in water in the same situations as the adults.

There is considerable variation in the size of the adults, the males generally being larger than the females. The average size in this area is almost three and one-quarter inches with somewhat bigger specimens being found in the south. To give an average size for efts presents some difficulties inasmuch as this stage represents a considerable part of the growing time of its life. Within a period of two or three years it must increase in size from the maximum of a transforming larva to the minimum of an adult or from about one and one-half inches to three inches or more.

The fully adult newts living in the water are an olive-green color above and yellow below. There is a well-defined division of the dorsal and ventral coloring midway along the sides extending from the tips of the snout to the end of the tail. The legs are likewise greenish above and yellow below. The green itself may show considerable variation from a yellow-green to a rather deep greenish-brown. There is a scattering of small black dots over the upper and lower surfaces and sides. Along the back are a number of small vermilion black-ringed spots. There is a blackish line running along the side of the head from the nostrils through the eyes to the neck.

The males readily may be distinguished from the females by the greater keeling of the tail and by the larger rear feet. During the breeding season the tail-fins of the males become considerably enlarged, extending a short distance up the back, and dark hard excrescences are formed on the under parts of the back legs and toes.

In the spring of the year the adult newts lay their eggs. The period of time during which the eggs may be laid will vary considerably, depending upon weather conditions and locality. In a favorable season egg laying may begin much earlier than during a backward spring; and, likewise, warmer areas and latitudes will induce earlier depositing of the eggs. In this region eggs may be laid in the early part of April and the process continued throughout May and even June, depending upon the factors stated above. A single female may develop as many as 200 to 300 or more eggs in one season, often the number is less. The deposition of eggs by any one individual is not completed in a single day but may be continued for a considerable time. The eggs are comparatively small, being

about one and one-half millimeters in diameter. They are laid singly and are usually attached to aquatic plants in quiet bodies of water. The period of incubation is about three to four weeks.

The larvae are approximately one-quarter inch long when newly hatched and are of a yellowish-green color. The balancers, attached to the head, disappear within a week. At birth the front legs are merely stumpy buds. The gills, which are external and slightly branched, are small. But development is rapid. The gills become quite bushy, the legs grow longer and the keel of the tail widens and extends up over the back almost to the head. Lungs are gradually developed.

Within two or three months the larvae have reached their maximum size of about one and one-half inches and begin to transform into the eft or terrestrial stage. The gills are lost and the tail fin or keel is absorbed. The dorsal spots, so well known on this salamander, begin to appear, faintly at first, but gradually they assume their bright red with black outline. In the beginning they seem reluctant to leave the water but it is not long before they are out on land seeking the woods. Meanwhile their coloration changes and they develop various shades of bright orange and red.

Now we see the little red eft that seems to appear so quickly from nowhere if, by chance, we are caught in a shower while walking in the woodlands. The period of the eft stage is variable and may last as long as three years. Then comes the return to the water, with the eft transforming to the aquatic newt and taking on the characteristics of the adult with which we are so well acquainted. This migration may take place either in spring or fall.

The foregoing may be called a typical life history. To say that a certain thing *will* do this or *will not* do something else is risky. Well established rules are generally found to have exceptions. So it is with the newt, and our own area provides one of the exceptions. On Staten Island, Long Island, and some other coastal regions this salamander is most likely to skip the eft or terrestrial stage. Just what disturbing influence causes this upset is open to discussion. There are those who will maintain that there are no efts at all in the area in question; the opposition will produce evidence to the contrary. It is, however, generally conceded that the eft stage is missing in this case as stated above. Nevertheless, true red efts will occasionally be found in these areas, but they will lack the

bright colorings of the efts of inland regions and instead be of a darker and duller hue. In places where the eft is lacking the larvae do not go to the land on transforming, but rather remain in the water throughout their development and life. Frequently, in these areas, large individuals of a decided reddish color are found in the water and similarly adult specimens with vestigial gills are seen.

Likewise, the adult newt does not always remain in water throughout life. There are sections in their range where they will leave the ponds and spend some time on land before returning to the water. In some places they are forced to live on land by virtue of the fact that their ponds are almost certain to dry up in the summer. Under these conditions they are apt to migrate in search of more favorable conditions or to burrow to situations which present adequate moisture, returning to their ponds when fall rains have restored them to normal level.

At the Ringwood ponds near Ithaca, New York, we see an exceptionally interesting example of newt migration. Here the adults will be seen to leave the ponds at about the same time that the larvae are transforming and starting their sojourn on land. Inasmuch as some of these particular ponds do not dry up there must be some other reason, yet unknown, for the migration. Further, these newts do not return the same fall, as is common elsewhere, but pass the winter in hibernation on land and return to water the following spring.

Regardless of whether we find the little red eft out in the forest miles from water, or catch the newt in our net while dabbling in the pond, we have not collected two different salamanders but only two different life stages of *Triturus viridescens viridescens*.

The Mineral Spring

LEE A. ELLISON

Many references to the "Mineral Spring" near Travis Avenue, New Springville, occur in our Staten Island nature records but a lack of specific information in modern times led to a study of the area and water this past year. Some preliminary results were published in, "Nature Snooping, The Mineral Spring," in the February, 1946, *Museum Bulletin*, p. 46.

Interest in the supposedly curative spring is derived apparently from some paragraphs in Anthon's Notes. He described a visit to the spring on Friday, August 15, 1851: "The basin of the Iron Spring is four-sided, measuring about 3 ft. by 2 ft. The water contained in it was clear and had nothing like scum upon the surface. The bottom is composed of an orange brown earthy sand. The water issues almost wholly from one side of the basin, close to the margin, through about ten apertures. The jets are of small force, and the sand thrown up by them is of its natural colour, but the margin of the basin is here very deeply tinged with iron. There is also one very small jet close by the influx. The depth of water in the centre of the spring was only some 6 or 8 inches. In the stream forming the outlet of the spring the water had deposited a very considerable amount of iron, much more than in the spring itself, and wherever an obstruction existed, in the shape of a straw or plant, the water was covered with a silvery scum. The stream empties itself, after a course of some 25 yards, into a ditch that drains the meadow. As you leave the source, the appearances observed become less and less noticeable, till at the mouth of the stream the water appears perfectly limpid, with no sign of iron. Some boys who were there said this spring had once a box around it, and that there were two or three in the neighborhood, one with a box. Tracing backwards another stream which ran parallel with the outlet of the spring just described, I reached, after passing through a very miry place, another spring enclosed in a box. The appearances of iron similar to those at the first spring, but much less distinct."

Proceedings of the Staten Island Institution of Art and Sciences, Vol. 5, Pts. 2-4, October, 1929-May, 1930, p. 93.

The results of our search last October showed that the whole area abounds in seepages with little remaining of the original spring to mark its true location as distinct from other seepages. A sample of water from a suspected "mineral spring" was analyzed and no special properties were observed.

It seemed that further investigation was needed of the site, of the analysis of the water, and of conditions of flow. During the winter the territory was quite thoroughly studied for conditions of surface water flow, springs and seepages. In the absence of any specific or exact location of the original spring, the writer arrived at the conclusion that ground water in this site emerges from a multitude of small sources, any one of which may have been the original spring. The territory is now densely overgrown with spicebush, black haw and elderberry.

Since mention is made in the records of reddish water or evidences of iron in the spring water, three such seepage flows, rusty-red and of definite flow, were investigated and studied. In all three instances the iron in solution was decidedly low, from 1 to 2 parts per million. It was found that the red color is due to thriving colonies of the schizomycete, *Crenothrix*. This filamentous organism has the property of precipitating iron from solution in water, upon the gelatinous sheaths that encase the filaments. Many small stagnant pools or seepages support colonies of this organism and it sometimes becomes troublesome in water mains.

In addition to the sample of water from a rusty-colored seepage mentioned above, a sample was taken from the main, upper portion of a stream which receives discharges from many red and clear seepages and springlike sources of water in this area.

Below is shown the mineral analysis of these two samples and by way of comparison, the analysis of water from the "Boiling Spring" on Oakland Ave., near Forest Ave., a quite well-known large spring. All analyses are from filtered samples.

A study of these analyses indicates (1) that some of the mineral matter in solution in the subsoil water which comes out into the stream is being assimilated by the *Crenothrix*; (2) growth of the organism releases other constituents such as nitrates or nitrogenous matter; (3) this water is, in general, merely a hard water similar to spring water occurring in other parts of the Island. Water from the Revolutionary spring on Old Mill Road, Richmond,

is quite similar in hardness and composition to the springs listed above.

	<i>Red Seepage "Mineral Spring"</i>	<i>Effluent Stream "Mineral Spring"</i>	<i>"Boiling Spring" Oakland Avenue</i>
pH	7.1	7.4	7.1
Total solids	383.0	227.0	249.2
Organic solids	29.7	20.7	27.2
Silica solids	23.0	19.3	24.6
Iron & Alumina	0.5	2.1	1.3
Calcium oxide	80.0	57.5	24.8
Magnesium oxide ...	4.6	18.0	56.5
Sodium oxide	39.6	47.8	17.5
Potassium oxide	4.5	3.2	3.2
Chloride radical	13.9	30.2	15.3
Carbonate radical	22.6	51.6	26.5
Sulphate radical	54.6	15.6	47.8
Nitrate radical as N ..	8.5	0.45	0.8
Hardness	162.0	154.0	120.5
Free carbon dioxide ..	6.7	13.2	12.0

(All results expressed in parts per million except pH.)

Mineral springs derive their fame from curative properties (real or imagined) or extreme mineralization of their water. One class of springs yields radioactive water; a second contains excessive or unusual mineralization to make it the source of scarce elements, such as lithia, silenium or arsenic springs; a third yields water charged with carbon dioxide, hydrogen sulphide, alkalies, or magnesium sulphate. These have some therapeutic qualities and the water is prescribed for various ailments, and has definite curative properties; it finds extensive sale and, like the waters from Saratoga or Poland Springs, acquires considerable fame.

Unless further investigation discloses a spring of distinctive character in the Freeman Winant swamp, or a rare element is discovered in some of the samples, our conclusion is that the term "mineral spring" is incorrectly applied, at the present time, to the springs and seepages at this location. It is quite possible that the original spring, mentioned by so careful an observer as William T. Davis, has ceased to flow.

Staten Island Natural History Records¹

In continuing our report on Staten Island Natural History we are following much the same scheme of summarizing as was used in the last number of the *Proceedings* in order to present a condensed report for ready reference. This report covers a two-year period which includes the transition from the Staten Island Bird and Nature Club, an affiliated society, to the Section of Natural History of the Institute.

We conceive the purposes of our organization to be fourfold: (1) To foster a love of Nature and a further interest in the natural sciences among all people with whom we, as a Section of the Institute, come in contact, (2) To foster conservation of Staten Island wild life and a public interest in conservation, (3) To extend our knowledge of all phases of Nature and wild life on Staten Island and in the metropolitan area, the material gathered from outside the Island being studied only in its relation to Staten Island natural history, (4) To perpetuate records of our findings for future reference.

Officers for the two years have been: 1944-1945: President, Lee A. Ellison; Vice-President, Carlton Beil; Secretary, Mrs. Karl O. Nesslinger; Field Secretary, Edwin A. Rundlett; Treasurer, Karl O. Nesslinger. 1945-1946: President, Lee A. Ellison; Vice-President, Mrs. Elwood Cole; Recording Secretary, Mathilde Weingartner; Corresponding Secretary, Mrs. Karl O. Nesslinger; Field Secretary, Edwin A. Rundlett; Treasurer, Karl O. Nesslinger.

The work of study, collecting, observation and research has been continued with renewed vigor, we believe, since the inception in June, 1945, of a third monthly function: The Study Group. This group meets in the Museum on the Tuesday immediately following each monthly field trip. It has received valuable contributions from specialists in various fields as well as having stimulated an interest in nature study.

Monthly Meetings: Regular monthly meetings were held at the Museum or at the home of one of our Club members. At these meetings many specimens and reports were submitted. An effort

¹ Compiled from the records of the Staten Island Bird and Nature Club and Section of Natural History by Lee A. Ellison.

was made to have one or more topics of general interest for elaborated discussion at each meeting. The following list indicates the speaker, topic and date of meeting:

	Bird Songs recorded by Cornell Ornithological Laboratory	7/22/44
Lee A. Ellison	"The Country Herb Doctor"	8/26/44
I. C. G. Cooper	"Fall Flowers"	9/23/44
Dr. Theodora Nelson	"Description of Work at Camp Tivoli and Michigan Biological Station"	10/28/44
Edwin A. Rundlett	"Survival of Trees through the September Hurricane"	11/25/44
Lee A. Ellison	"Oils from Backyard Weeds and Roadside Trees"	12/23/44
Mrs. John Plumb	"Traditions, Superstitions and Legends about Christmas Greenery"	12/23/44
Frank Gunnell	"Color in Nature"	1/27/45
Edwin A. Rundlett	"Winter Characteristics of Twigs and Buds"	2/24/45
Roswell S. Coles	"Geology of Staten Island"	3/24/45
Lee A. Ellison	"Subsurface Minerals at Travis, S.I."	3/24/45
Mathilde Weingartner	"Early Spring Insects"	3/24/45
I. C. G. Cooper	"Holiday in Pioneer Valley"	4/28/45
Dr. Theodora Nelson	"Intimate Studies of the Spotted Sandpiper"	5/26/45
Volney Avery	"The Use of Our Natural Plants in Beautifying Home Grounds"	9/22/45
	Motion Picture, "Days Afield"	10/27/45
	"Grasses of This Region"	11/24/45
A. T. Beals	Motion Picture, "King Cotton"	12/22/45
	Motion Pictures, "Flowers at Work" and "Songbirds of the North Woods"	1/26/46
	"My Trip to Bull's Island, S. C."	2/23/46
Mathilde Weingartner	"Microprojection"	3/23/46
Nieves Ribes	"Dendritic Crystals"	4/27/46
Charles Ericson	"In His Own Judgment" and "Design in White"	5/25/46
Joseph J. Harley		6/22/46
Charles Ericson	Slides on Crystals	

Field Trips: Many were the occasions when we enjoyed the hospitality of various of our members whose home was the start or terminus of the field trip; and on several occasions when weather was severe, the warmth and cordiality of such hospitality was worth quite as much as the rest of the trip. Appreciation is due Mr. & Mrs. Howard Cleaves, Mr. & Mrs. Elwood Cole, Mr. & Mrs. Thomas Hughes, Mrs. Dagmar Johnson and Mr. & Mrs. Karl

Nesslinger. The following list indicates the locality visited, the leader, purpose and date:

Peat Bogs, Grasmere	Beil & Rundlett	Bog Formation and Flowers	7/ 8/44
Mt. Loretto, Butler Estate, Pleasant Plains	Cleaves & Chapin	Birds and Plants	8/12/44
Wolfe's Pond Park	Ellison & Rundlett	Fall Flowers, Birds	9/ 9/44
Fireworks Woods (South Ave.)	Ellison	Autumn Coloring of Trees and Plants	10/14/44
St. George to Richmond	Burke	All-day Hike	11/11/44
Old Mill Road, Richmond to Klondike Ave.	Ellison & Rundlett	Migrating Birds, Unusual Trees	11/11/44
Moravian Cemetery to Seaview Valley	Ellison & Rundlett	Winter Woodlands	12/ 9/44
Richmond to Egbertville along Richmond Creek	Ellison & Rundlett	Means of Seed Distribution	1/13/45
Livingston to Randall Manor	Ellison & Rundlett	Interesting Trees	2/10/45
Richmond to Oakwood	Ellison	Signs of Spring	3/10/45
Woodlands between Rich- mond Hill Rd. & Rock- land Ave.	Ellison & Rundlett	Nearly Extinct Trees & Plants	3/31/45
Clove Lakes Park	Ellison & Rundlett	Spring Birds	4/ 8/45
Flagg Place to Reed's Valley	Ellison	Geology & Spring Blooms	4/14/45
Little Clove Valley	Ellison	Spring Birds	4/22/45
Moravian Cemetery	Rundlett	Spring Birds	5/ 6/45
Willowbrook Park Estate	Ellison & Rundlett	Birds & Flowers	5/12/45
Von Briesen Estate	Rundlett	Trees	6/ 3/45
Woods of Arden, Elting- ville Beach	Ellison & Rundlett	Birds & Flowers	6/ 9/45
Concord Bogs, Spring Street Valley	Rundlett	Flowers & Shrubs	7/14/45
Pleasant Plains to Rich- mond Valley	Ellison & Rundlett	Wildflower Study	8/11/45
Wolfe's Pond Park	Ellison & Rundlett	Wildflowers & Deodar Cedar	9/ 8/45
New Springville & Wil- lowbrook Parks	Rundlett	Mineral Spring	10/13/45
Betty Holmes & Sweet- water Brooks	Ellison	Woodland Birds	11/10/45
St. George to Eltingville	Burke	All-day Hike	11/10/45
Reed's Valley	Ellison & Rundlett	Survey of Basket Willow Swamp	12/ 8/45
S. I. Zoo & Clove Lakes Park	Ellison & Rundlett	Ornamental Trees & Plants	1/12/46

Buck's Hollow, Egbertville	Rundlett	Winter Trees & Birds	2/ 9/46
Woods of Arden, Eltingville	Mrs. Elwood Cole	Trees & Shrubs	3/ 9/46
Moravian Cemetery	Ellison	Spring Birds	4/ 7/46
Bloodroot Valley & Flaggs Pond	Ellison & Rundlett	Spring Flowers	4/13/46
Emerson Hill & Spring* Street Valley	Ellison	Migrating Birds	4/28/46
Clove Lakes & Little Clove Valley	Ellison	Migrating Birds	5/ 5/46
Benham's Brook, Eltingville to Annadale	Ellison & Rundlett	Wildflowers & Birds	5/11/46
Four Corners, Little Clove Valley to Grymes Hill	Ellison	Flowering Shrubs & Plants	6/ 8/46

Specimens, Reports and Observations: Continuing the policy adopted for our last publication of the *Proceedings*, below is a summarized list covering the work of the Section, listing the subject, locality of observation, by whom reported and date. The fields of major study appear first in the list.

Birds: During the past two years we have continued winter bird feeding and have taken part in the Christmas Bird Censuses of Dec. 24, 1944, and Dec. 23, 1945, and the Nesting Bird Censuses of June 3, 1945, and June 2, 1946.

1. Field and Stream

Prairie Horned Lark, nesting	Cleaves	7/22/44
Wood Pewee nesting, Mt. Loretto	Field Trip	8/17/44
Quail, Grasmere, several observers		8/26/44
Whip-poor-will, first Spring occurrence	Cleaves, Ellison	4/18/45
Indigo Bunting, " " " " "	" "	4/26/45

2. Shore, Marsh and Bay

Piping Plover, decreasing	Cleaves	7/22/44
Clapper Rail, " "	"	7/22/44
Least Tern, " "	"	7/22/44
Willetts, Oakwood Beach	Chapin	10/28/44
Killdeer nest, Crooke's Point	"	4/28/45

3. Birds of Prey

Turkey Buzzard, Todt Hill	Cleaves	4/28/45
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4. Migrants

Fall lists, Spear, Ellison, Rouse, Sleight,	Weingartner	10/28/44
Late Fall and Winter List	Ellison & Cleaves	12/23/44

Flowering Plants: Work on the five-year census of flowering plants of Staten Island has been greatly strengthened and extended under the able leadership of Mr. I. C. G. Cooper. So much material has been contributed by the census that in the Summary a separate listing is made of indigenous, exotic and disappearing plants. It has been a pleasure to note that some of the species we formerly thought nearly extinct have turned up in unexpected places.

1. Survival and Relocation

Bottle Gentian, Fireworks Woods	Field Trip	10/14/44
“ “ Eltingville	Rundlett	10/16/45
Bloodroot, near 1050 Rockland Ave.	Field Trip	3/31/45
“ “ Seaview Valley	“ “	4/ 3/46
Birdsfoot Violet; <i>Viola pedata</i>	“ “	4/14/45
Wild Leek, woods north of Richmond Hill Rd.	Ellison	5/26/45
Wild Leek, near 1050 Rockland Ave.	“	5/26/45
<i>Hudsonia tomentosa</i> , Marine Park	Chapin	6/ 3/45
Early Saxifrage, Seaview Valley	Ellison	4/16/46
<i>Dentaria laciniata</i> , near Camp Pratt	“	4/27/46
Trailing Arbutus	“	4/27/46

2. Indigenous, occasional to common

Lizard's Tail, <i>Saururus</i> , Grasmere bog	Field Trip	7/ 8/45
Blackberry, <i>Rubus laciniatus</i> , Grasmere Bog	Ericson	7/ 8/45
<i>Lachnanthes tinctora</i>	“	8/26/44
<i>Eupatorium hyssopifolium</i>	“	9/17/44
<i>Clematis paniculata</i>	“	11/25/44
<i>Sisymbrium altissimum</i>	Cooper	6/12/45
<i>Bidens trachysperma</i>	Ericson	10/29/45
<i>Pyrola uliginosa</i> var. <i>rotundifolia</i>	“	11/13/45
Spring cress, <i>Cardamine bulbosa</i> , Todt Hill Rd.	Field Trip	4/14/45
Field Chickweed, <i>Cerastium arvense</i> , Todt Hill Rd.	“ “	4/14/45
<i>Andropogon virginicum</i> , Annadale Rd.	Ericson	6/23/45
Late blooming lists, Ackerman, Cooper		11/25/44
American Burnet, <i>Sanguisorba canadensis</i>	Ellison	8/25/45
<i>Mentha rotundifolia</i>	Ericson	8/25/45
<i>Aster tenuifolius</i> , Tarlton Ave., Oakwood	Rundlett	9/22/45

3. Rare

<i>Panicum amarum</i> , Tottenville	Ericson	10/28/44
<i>Lythrum alatum</i> , Grasmere	“	7/17/45

4. Exotics

<i>Perilla frutescens</i>	Ericson	1/27/45
Dwarf Nettle, <i>Urtica urans</i> , Anna- dale Rd.	Ellison	11/13/45

Cryptogams: Although not technically included in the five-year census, considerable work has been done in the non-flowering plants particularly by Miss Mathilde Weingartner. Mr. Joseph F. Burke has contributed much in the study of local diatoms.

1. Ferns

Christmas Ferns, Reed's Valley	Field Trip	12/ 8/45
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2. Mosses

Bifurcating Haircap Moss, Swamp near Clark St.	" "	3/10/45
<i>Hypnum reptile</i> , on stones, Betty Holmes Brook	Ellison	4/24/45

3. Fungi

Witches' Broom on Scotch Pines	Rundlett	9/23/44
<i>Trametes cinnabarinus</i>	Field Trip	3/10/45
Earth Star (Geaster)	" "	12/ 8/45

4. Diatoms

<i>Navicula integra</i> in so-called mineral spring	Burke	12/22/45
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5. Algae

<i>Didymohelix</i> , <i>Crenothrix</i> , cause of red deposits in so-called mineral spring, Travis Ave.	Ellison	12/11/45
<i>Stegoclonium</i> in water from Winant's spring	Cooper	1/15/46

Trees: In addition to the census of flowering plants a long-range census of trees and shrubs of Staten Island has been undertaken by Mr. Edwin A. Rundlett.

1. Survival and Relocation

<i>Salix tristis</i> , Richmond Valley	Field Trip	9/23/44
Burning Bush, <i>Euonymus atropurpu-</i> <i>reus</i> , South & Forest	" "	10/14/44
Hop Hornbeam, 1050 Rockland Ave.	Ellison, Rundlett	11/11/44
Persimmon (6) North Part of Wolfe's Pond	Field Trip	9/ 8/45
" (7) Ravine near Nevada Ave.	Rundlett	9/22/45
<i>Pinus echinata</i> (1) Cloverdale Ave.	"	9/22/45

<i>Pinus virginiana</i> , 247 Sharrott Rd.	Ellison	8/25/45
" " 17 Bloomingdale Rd.	Rundlett	4/27/46
" " 25 Prall Ave.	"	4/27/46
Kentucky Coffee Tree, Henderson & Prospect Aves.	Field Trip	2/18/45
Butternut (1) Page Ave.	Rundlett	3/12/46
River Birch, Grantwood Ave.	Ellison	11/24/45
" " Wolcott Ave.	Rundlett	12/11/45, 1/26/46
" " Kahn (Adrey) Green-houses, Signs Rd.	Rundlett	1/26/46
" " Main & Chelsea Sts.	"	1/26/46
" " Glover St., Annadale	"	3/23/46
Cranberry, <i>Vaccinium macrocarpon</i> , Kensico & Natick St.	Field Trip	3/10/45
Swamp Magnolia, Hughes Ave.	Ellison	4/27/46

2. Indigenous

<i>Salix cordata</i> , <i>Salix rostrata</i> , Totten-ville	Ericson	4/28/45
Hawthorn, <i>Crataegus punctata</i> , Wil-lowbrook	Ellison	5/20/45
Native Sycamore attacked by anthrac-nose	Rundlett	5/26/45
Russian Olive, <i>Elaeagnus angustifolia</i>	"	6/23/45
Old, very large Tulip Tree	Cooper	2/23/46
Kentucky Coffee Tree, 5050 Hylan Blvd.	Field Trip	3/ 9/46
Sheep Laurel, extensive stand, South, Merrill Ave.	Ellison	4/27/46
Sheep Laurel, small stand, Woods of Arden	Field Trip	3/ 9/46
Late Apple Blossoms, 10/13/44	Blauvelt	10/28/44
Fruiting Ginkgo, 172 Davis Ave.	Ellison	11/25/44
Tree Twig Collection	Rundlett	2/24/45
Hybrid Cottonwood, Bethel Ave.	Rundlett	4/27/46

3. Exotic

London Plane Tree, unusual size, age over 200	Rundlett	7/14/45
Bald Cypress, 5' 6" circum., 1214 Richmond Rd.	"	7/14/45
Cucumber Magnolia, 7' 4" circum., 13 Delwood Rd.	"	7/14/45
Sweet Buckeye, Pleasant Plains	"	7/28/45
Cherry <i>Elaeagnus</i> , <i>Elaeagnus umbel-lata</i> var. <i>parviflora</i> , Faber Park	Rundlett	6/23/45
<i>Pyrus hybrida</i> , 25 Curtis Place	Hoffmeyer	6/23/45
Turkey Oak, Prospect Ave.	Field Trip	2/10/45

Epaulette Tree, Von Briesen Park	" "	3/24/45	—
Yellow English Oak, <i>Quercus robur</i> var. <i>concordia</i>	" "	5/26/45	
Wych Elm, Ross Ave.	Rundlett	6/ 3/45	
Weeping Scotch Elm, Von Briesen Park	"	6/ 3/45	—
European Purple Beech, " " "	"	6/ 3/45	
European Mountain Ash, " " "	"	6/ 3/45	
Deodar Cedar, Eltingville	Field Trip	3/ 9/46	
Deodar Cedar, Prince Bay	" "	9/ 8/45	
Nikko Fir, 247 Seguire Ave.	Rundlett	9/22/45	
Nordmann Fir, 193 Seguire Ave.	"	9/22/45	
Purple-leaved Sycamore Maple	"	7/22/44	
Amur Lilac, Sleight Ave.	Mrs. Redjives	10/28/44	
Fringe Tree, Vanderbilt Mausoleum	Field Trip	12/11/44	
Fringe Tree, Walker Park	" "	2/10/45	
<i>Pinus banksiana</i> , Eleanor St.	" "	1/27/45	
<i>Pinus banksiana</i> (2) Todt Hill Nurs- eries	Ellison	12/11/45	—
Himalayan Pine, 776 Tompkins Ave.	Rundlett	12/22/45	
Swiss Stone Pine, 248 Rose Ave.	"	4/27/46	
Swiss Stone Pine, Richmond County Jail	"	3/23/46	
Cedar of Lebanon	Field Trip	3/ 9/46	
Cedar of Lebanon Seedlings from old cones	Rundlett	4/27/46	
Rock Elm, Barrett Park	Field Trip	1/12/46	
<i>Franklinia altamaha</i>	" "	1/12/46	
Pecans, Avery Estate, Page Ave., Tottenville	Rundlett	4/27/46	
Pawpaw, <i>Asimina triloba</i>	"	4/27/46	
American Tamarack, <i>Larix laricina</i>	"	4/27/46	
Chinese Pagoda Tree or Scholar Tree, <i>Sophora japonica</i> , Manor Road	Ellison	1/27/45	
Chinese Pagoda Tree or Scholar Tree, <i>Sophora japonica</i> , Von Brie- sen Park	Rundlett	3/24/45	—
Hungarian Lilac, Livingston	"	2/10/45	
Winged Spindle Tree, <i>Euonymus</i> <i>alatus</i> , Bard Ave.	"	2/10/45	
European Small-leaf Linden	"	2/10/45	
Bald Cypress, Clinton & Prospect Aves.	"	2/10/45	

Insects: Extended observation was made of the emergence of Brood II of the 17-year Cicada on Staten Island in 1945 which forms the basis for an article in this issue of the *Proceedings*. A new species

of butterfly, *Chlorippe celtis*, was added to the Staten Island list in the summer of 1945.

Cicadas

Record of Emergence, 1945 Brood	Nesslinger	6/26/45
Emergence of Nymphs with turrets	Koestner	4/19-29/45
Finish of Emergence and Mating	"	6/13/45
Eggs Laid and Larvae Emerging from Eggs	"	8/28/45

Carpenter Ants , Runway of	Ellison	9/25/44
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Potter Wasp Mud Pots	Weingartner	7/22/45
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Hackberry Butterfly , <i>Chlorippe celtis</i> , new species on Staten Island	Barlow	9/11/45
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Miscellaneous Observations

1. Astronomy

Vivid Display of Aurora Borealis		3/23/46
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2. Conchology

Edible Cockles, <i>Donax anatina</i> , <i>Buccium undatum</i> , <i>Littorina obtusa</i> and Edible Mussel, apparently from English Coast, ballast fill on Kissel Ave.	Weingartner	8/14/45
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3. Fish

Tadpoles and goldfish killed by ice-locked condition of water in Flagg's Pond	Beil	2/24/45
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4. Mammalia

Muskrats plentiful, Grasmere	Nesslinger	2/25/46
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5. Micro-organisms

Rotifera, etc., in Spring Water, Winant's Swamp		1/25/46
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6. Mineralogy

Analysis, mineral spring, Travis Ave., "Winant's Swamp"	Ellison	12/22/45
Analysis, Revolutionary Spring, Latourette Park	"	1/15/46
Analysis, Top Soil at S. I. Edison Property, Arthur Kill	"	2/23/46

7. Paleontology

<i>Acrogen</i> imprints in carboniferous shale, ballast fill on Kissel Ave.; <i>Sigillaria</i> , <i>Stigmara</i> , <i>Asterocalamites</i> , <i>Annularia</i>		8/14/45
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8. Reptilia

Diamond Backed Terrapin, Oakwood	Cleaves	7/22/44
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The Magic Cicada on Staten Island, 1945

HOWARD H. CLEAVES

As far back as 1940 our beloved William T. Davis would say, "If I can manage to live until 1945 I will die happy." What Edwin Way Teale's Cicada Man meant was that, should he survive until May or June, 1945, he would witness for the fifth time in his life the near-miraculous advent on Staten Island of the periodical cicada, *Magicicada septendecim*, 17-year locust to the layman. Mr. Davis was born on Staten Island during the Civil War, October 12, 1862, and once said, "Yes, Christopher Columbus did me the honor of discovering America on my birthday." Two years and four months before Mr. Davis was born—or in June 1860—the air was vibrant with the sustained roar produced by millions of male 17-year cicadas in many parts of Staten Island. Seventeen years before that, in 1843, Henry David Thoreau of Walden Pond was on Staten Island and observed the unforgettable phenomenon, the cicadas seen by him being the parents of those composing the 1860 brood, and the ancestors, six generations removed, of the hordes that bewildered, annoyed, frightened or fascinated Staten Islanders in 1945. Mr. Davis was fifteen years of age when he experienced his first meeting with the 17-year cicada on Staten Island in 1877, and he was a witness to the three succeeding occurrences in 1894, 1911 and 1928. By the small margin of approximately 122 days he was denied the pleasure and satisfaction of seeing and hearing this magic insect for the fifth time on "our island" which W. T. D. referred to as "the center of the universe." Death intervened on January 22, 1945.

The timelessness and punctuality of this wonderful insect stagger the imagination. Regular as the planets, eclipses and Halley's comet, the 17-year cicada pulses down through the centuries setting mile posts for us to compare with our own often puny historical events. The native red men beheld the spectacle but bequeathed to us no written record of their doubtless eloquent reactions. The cicadas were on schedule before Columbus set sail even though no entomologist was present to record his observations in the insect journal. If my subtraction is correct, here are the years, going back to just before the discovery of America, in which Brood 2,

as the entomologists have designated our segment of the national 17-year cicada population, has poured forth its roaring legions: 1486, 1503, 1520, 1537, 1554, 1571, 1588, 1605, 1622, 1639, 1656, 1673, 1690, 1707, 1724, 1741, 1758, 1775, 1792, 1809, 1826, 1843, 1860, 1877, 1894, 1911, 1928, 1945.

That the early settlers took note of the periodical cicada is evident from the record. Writes Clifford K. Shipton in his *Roger Conant, A Founder of Massachusetts*, p. 108: "That same summer of 1633 the crops were also damaged by the seventeen-year cicada, whose unexpected appearance dismayed and astonished the planters:

‘Ther was shuch a quantitie
of a great sorte of flies, like (for bignes) to wasps, or bumble-bees,
which came out of holes in the ground, and replenished all the
woods, and eate the green-things, and made shuch a constante
yelling noyes, as made all the woods ring of them, and ready to
deafe the hearers. . . . The Indeans tould them that sicknes would
follow, and so it did in June, July, August, and the cheefe heat of
sommer.’ ”

It should be added that this quaint account errs with respect to the eating of green things by the cicadas, also that the New England brood of these insects referred to is a separate one from ours, its time table differing as to the year of occurrence.

Evidence of the approaching event of 1945 began to appear during 1944. Cicada nymphs, evidently working their way toward the surface of the earth, were exposed by persons digging in gardens. In late May and early June, 1944, isolated individuals of the advance guard were heard droning in two or three places. On June 9, 1944, Mr. Davis, George Wilmott and the writer visited several localities by automobile and were rewarded by hearing at least two 17-year cicadas in the woodlands of Mount Loretto, Pleasant Plains. From there we went to the vicinity of the old Wort homestead in Rossville, an abundance center in 1928, but heard nothing. We called on Mrs. Isaac Wort, Sr., and it was during this visit that Wilmott and I took our last photographs of Mr. Davis. One of these pictures shows Mr. Davis in typical attire—straw hat, thin black alpaca coat, baggy trousers, a straight stick held in his right hand, one end snuggled under his arm, and an old army haversack hanging from his left shoulder. It was not realized that this

was the last day afield on Staten Island for William T. Davis, for shortly afterward he was overtaken by the affliction from which for him there was to be no recovery.

In the first half of April, 1945, dozens of mud turrets were observed in a small area of second growth gray birch, sassafras, oak and wild cherry near our home at 8 Maretzek Court, Pleasant Plains, and it is probable that some of these had been formed as early as the latter part of March. The so-called turrets are thimble-shaped little mud mounds built up by the cicada nymphs as extensions to their burrows when these reach the surface of the ground. Some rise a full two or two and a half inches above ground and are an inch and a quarter in diameter. Many are open at the top like the turrets built by crayfish, others have sealed domes. What purpose these structures serve appears not to be known, but if a turret is suddenly removed a nymph may be observed retreating down the shaft of the burrow in evident desire to avoid the light. It may be that the immature insect, vulnerable and as yet devoid of the power of flight, provides itself with this mud dome as a safe domicile in which to await that mysterious urge to break out, plod to a nearby tree or shrub on the appointed night and metamorphose into the end product of seventeen years of slow shaping—an adult 17-year cicada.

The first roar of the 17-year cicadas was heard by us on May 23, 1945. From that date onward the volume increased perceptibly on each warm day for a week or two until the noise became the dominant one in our neighborhood, suggesting the racket that might be made by ten thousand sewing machines half a block away. We noticed that the main volume of sound to be heard near our home came from the direction of Ramona or Drumgoole Boulevard and McGuire Avenue. In driving our car on Hylan Boulevard from Pleasant Plains to Tottenville we were impressed by the fact that the cicada chorus was not evenly distributed but concentrated in definite areas, each separated from the next by perhaps a half mile of territory in which no sound from the insects could be heard. Although many turrets had been found in the small woodland close to our home and females later observed ovipositing in twigs of gray birch not more than thirty or forty yards from our house, little or no so-called singing was heard as near as that to our place. We speculated that individuals which transformed nearby flew to the

nearest concentration area to sing and mate and that numbers of females later flew into our immediate vicinity to deposit their eggs. Females lack sound apparatus and are therefore silent.

During a hot spell June 11th through June 14th, 1945, cicadas were heard in general chorus as early as three and four o'clock A.M. On June 14th individuals were heard at 11:45 P.M. with the temperature at 67° F. Mr. & Mrs. K. O. Nesslinger of Grasmere reported hearing cicadas at night. However, on several favorable nights, both Mrs. Cleaves and I awoke at various hours and heard no cicadas. Investigation revealed that those heard by us at night were clustered on the wood electric light poles along Ramona Boulevard. The insects were massed near the tops of the poles on surfaces nearest the powerful yellow lights. On one pole I counted two hundred cicadas and on the ground near its base were dozens more, some dead, others walking about as if dazed or injured. The time was midnight and after examining the poles I went north from the boulevard on McGuire Avenue several hundred yards through heavily infested territory. Using a 5-cell electric flashlight I walked among the sassafras and other second growth vegetation. On stems, on the undersurfaces of leaves and on trunks of small trees were innumerable cicadas of both sexes but not a sound came from any of the thousands of individuals in this area as they rested immobile during the hours of darkness. Yet during the day the din created by them was almost overpowering.

This mass broadcasting carries far—probably a third of a mile or more—but the performance of an individual is rather unimpressive even when heard close at hand. The sound is not produced by vocal organs but by apparatus located on the under side of the cicada's body near the forward end of the abdomen, two slightly overlapping scale-like plates being rapidly vibrated across a cavity which serves as a sound box. When heard from a distance of a few feet the noise is elusive, almost ventriloquial. Certainly it does not strike the hearer as being loud, an impression which still held even when a male cicada alighted atop my head and sang there. The call of an individual male is sustained over a period of approximately three seconds and is of two parts, the first lasting about two seconds. Mr. Davis said he fancied the insect to be calling Pha-a-a-a, r-o-a-h, the first syllable on a higher pitch, the second slurring down rapidly to an abrupt ending, both possessing a res-

onant, nasal timbre. After much listening I found that an equally satisfactory paraphrasing was B-e-e-e-e, o-o-o. When broadcasting the male stands on a twig or other object and remains still except that his abdomen is slightly raised at the start, quickly lowered at the finish.

The 17-year or periodical cicada appears to favor shrub-sized second growth vegetation while transforming from nymph to adult, although great numbers of skins or nymph cases were found at the bases of medium sized and large trees also. But whereas certain of the annual species of cicada to be found on Staten Island choose the trunks and larger limbs of trees—particularly those with rough bark—the periodical cicada nymph cases are to be found in very many instances clinging to either dead or living twigs of small size, to the green stems of such plants as goldenrod and to the under surfaces of the leaves of many different species of shrubs and trees. Eight skins were discovered clinging to the under side of a single leaf on a white oak tree in the Wolfe's Pond Park area at Prince Bay, and many other leaves on the same tree bore from two to six skins each on their nether surfaces. At the peak of the emergence period space must have been at a premium, for some nymphs used the cast skins of their predecessors as pedestals on which to transform. In their upward progress out of the earth toward some suitable place where the case or skin is to be discarded the nymphs give evidence of much strength and persistence. In Richmond Valley I turned over an old wooden door which lay flat on the ground and beneath it discovered dozens of clean-cut holes made by cicada nymphs. In some cases the insects had been obliged to tunnel laterally for an inch or two before reaching an escape corridor and one had gone through a cardboard milk bottle cap, perforating it as if by a 32-caliber rifle bullet.

One afternoon I was near a sassafras tree which stood between me and the sun. There was not a cloud in the sky, yet the sun's rays revealed what looked like a fine drizzle. I noticed, however, that the minute particles of falling moisture were coming only from the tree which stood by itself in a small clearing. These tiny droplets proved to be anal discharges from scores of cicadas that were resting in all parts of the tree. Only the back-lighting produced by the sun revealed to me the almost microscopic expulsions, like notes in a shaft of light cutting the murk of an old cellar.

The first few days of June, 1945, were cold, unseasonably so. Cicada activity came to a standstill. At night I went prowling with a flashlight and found the insects in a state of numbness, clinging motionless to twigs and leaves. The temperature stood at about 50° F. When poked with finger or pencil a cicada would respond, if at all, by sluggishly moving a leg or feebly fluttering the wings. But after the first week in June came real cicada weather—bright sun and blistering hot days. The insects responded in kind. New hordes came out of the ground, matured individuals flying in all directions, after alighting in odd places, including this writer's nose. The flight is comparatively slow and after a landing which appears often rather bungling, the cicada may act as if in a sort of stupor.

Many birds took advantage of this situation. I observed robins, grackles, bluejays and English or house sparrows eating cicadas or carrying them away in their beaks. In Huguenot Park I watched a sparrow hawk eat three cicadas, each being plucked by the hawk's talons from the trunk of a tall sweet gum tree forty or fifty feet above the ground. After seizing its prey the hawk flew to a horizontal branch nearby, held the insect under one foot while devouring it, then flew again to the trunk of the sweet gum for another cicada. The greatest spectacle of all was provided by hundreds of gulls become flycatchers. Thousands of cicadas ascended to heights of two or three hundred feet in their travels from one section to another. The gulls, always opportunists where food is concerned, came in over the land from Raritan Bay and Staten Island Sound and feasted on the aerial hordes. For large birds they showed great agility in the pursuit of such diminutive quarry. At times I followed a single gull with 8-power binoculars until the bird overtook an insect and swallowed it; at others I focussed the glasses on a cicada and followed it until it disappeared inside the mouth of a swooping gull. Near Wolfe's Pond I counted nearly two hundred laughing gulls engaged in this un-gull-like activity and noted that most were immature birds, the full-plumaged adults having gone on to the nesting grounds many miles from Staten Island. A few immature herring gulls were also seen hawking for cicadas. It is noteworthy that laughing gulls may often be seen seeking insects as food above the land, especially in August and September, but just what insect species they seek at that season I have never learned.

During the hot days in the second week of June scores of paired or mated cicadas were seen clinging to leaves and twigs, these linked individuals often being undisturbed by the approach of humans or even by the intrusion of a stick or a finger tip. Soon after mating the females began egg-laying. This is a process to amaze the observer. Each female is equipped with a slightly curved, hypodermic-like appendage called the ovipositor. It protrudes from the under surface of the posterior region of her abdomen and is divided lengthwise, as if two miniature sabers were superimposed and pressed tightly together. The female cicada thrusts the point of this instrument through the bark of a live twig and into the heartwood where the eggs are deposited in two parallel rows suggesting cartridges in a clip.

Twigs the diameter of a lead pencil seemed to be preferred although both larger and smaller ones were selected in many cases. Incisions were uniformly spaced about one quarter inch apart, usually on the under side of the twig. When egg laying reached its peak suitable twigs were at a premium. On many twigs appeared parallel rows of incisions, indicating that two females had shared the same twig. Favorite localities for egg-laying were southern exposures along the edges of young second growth, rather than on the northern margin or in the interior of such places. It is possible that an abundance of sunshine aids in some way the development and hatching of the egg in the weeks to follow.

One hot Sunday afternoon Dr. and Mrs. James P. Chapin and I watched a cicada laying eggs in a twig of gray birch near our home. From the moment when she began to thrust her ovipositor through the bark until she withdrew it after depositing the quota of eggs to be laid in that particular incision the elapsed time was approximately forty minutes. We watched while she completed three incisions and the total time required for each varied no more than two minutes either way from forty minutes.

I observed that ovipositing females rested either right side up or upside down while laying, and that a wide variety of plant species served as repositories for the cicada eggs. These included gray birch, wild cherry, sassafras, sweet gum, ash, oak, and even poison ivy.

A completed incision appears as a longitudinal slit in the green bark, a tuft of yellowish-white heart wood fibers protruding from

its center. The cicada eggs can be easily seen by breaking a twig at the point where it has been weakened by the incision. A hand lens helps, but the tiny eggs can be seen by the unaided eye if they are shaken out of the twig onto a dark material such as velvet or black paper. Each egg is but two to three millimeters long, almost white and translucent. In shape the egg suggests that of a slender cigar, slightly more blunt at one end than at the other.

To learn how many eggs were placed in each incision by female cicadas I selected fifteen examples at random and broke the twigs above black velvet spread on a card table. The twig was then struck several sharp blows with pen knife handle or by snapping the fingers. All eggs thus dislodged could be accurately counted by the use of a hand lens and tweezers. An element of possible error attended this procedure, however, because of the uncertainty as to whether *all* eggs had been shaken out of any given incision. For what they are worth the egg counts for the fifteen selected incisions are 8, 17, 21, 24, 22, 14, 31, 11, 18, 17, 17, 18, 13, 14, 18 or an average of 17.5 eggs per incision.

As predicted by Mr. Davis the 1945 visitation of the 17-year cicada was accompanied by the appearance also of the smaller species known as var. *cassini* easily distinguished from the more numerous *septendecim* not alone by its much smaller size but by its high-keyed almost ear-splitting z-i-n-n-n-n-g broadcast. Even while driving one's automobile about Staten Island it was easily possible to detect the distinctive sound produced by *cassini*. One locality notable for the abundance of *cassini* in 1945 is a vacant plot bordering Amboy Road on the north about midway between Huguenot Park and Annadale. A young white ash tree at this place was heavily infested with both species. Several specimens of *cassini* were taken for verification and it was here that fresh incision scars were observed on poison ivy.

Museum Notes on the 17-Year Cicada

JOHN KOESTNER

The first sign of the appearance of the 17-year cicada was given to us on April 19 by Mrs. Karl Nesslinger, who brought some turrets from her garden at 960 Fingerboard Road. One week later she also reported many holes in the garden, but no mature insects were seen. The cool damp weather apparently retarded the development of the cicadas.

At the meeting of the Staten Island Bird and Nature Club on April 29, Howard Cleaves brought in turrets but no mature insects, nor was there any report from elsewhere on the Island at this time.

Early in May the weather became more seasonable; Mrs. Nesslinger reported and secured live nymphs and a few days later a number of newly transformed and some deformed adults were found. Other spots where cicadas were collected in 1928 were visited but only a few signs were found. The weather again was cold and wet.

May 16: Cicadas were seen at the home of Mr. Raymond Safford, 81 Acacia Ave., Great Kills.

May 19: Two mature female cicadas were brought in from Great Kills by Mr. Loring McMillen.

May 20: I collected 100 empty cases at the Nesslinger home, 960 Fingerboard Road, and saw blue jays, starlings and grackles eating the nymphs. The first signs of a large emergence were found on Grymes and Emerson Hill and at the same time I looked around Concord with no results.

May 21: This was a quiet evening, 58° F., and the Nesslingers picked 250 live nymphs which were climbing up on a large beech tree, spruce trees and grape arbor. Many more were emerging on the rear slope of the Nesslinger property and at 10 P.M., the cicadas were observed in all stages hanging on trees.

Mrs. Dorothy Morris, 4137 Richmond Ave., Eltingville, observed cicadas emerging for the first time.

May 22: H. D. Chisholm, 755 Pelton Ave., reported many cicadas around his home.

Mrs. John W. Dreyer, 218 Potter Ave., found many cicadas in her garden and reported that she had observed her cat catching and eating the cicadas.

May 23: This was a cool day and windy. Mrs. Nesslinger reported many cicadas on the ground, paths and trees of her garden, but they were not active. There were many adults on small trees, but no nymphs emerging from the ground.

Mrs. August Alholm, 154 Detroit Ave., Annadale, reported that she observed cicadas 5 days before and had killed about 3,000.

Mrs. Dreyer picked more than a bucket full.

May 24: Great numbers of cicadas were observed on the Campus of Wagner College, and there were many adults at 960 Fingerboard Road, but not many nymphs.

May 25: The "song" was first heard by Roswell S. Coles, Mrs. Elizabeth Parke and Mrs. Nesslinger at the corner of Schmitts Lane and Manor Road.

I observed for the first time, the fungus which attacks the abdomen of the insect and destroys its ability to mate.

May 26: The "song" of the cicadas was heard for the first time in the distance from 960 Fingerboard Road.

May 28: Mrs. W. N. Meyer, 42 Allendale Road, reported some cicadas.

Mrs. Nesslinger reported damp weather, with the sun out for awhile. At 7 P.M. she saw many nymphs crawling up a large beech tree in the rear of her home. Then there was a thundershower until dark.

May 29: Mrs. Nesslinger heard the cicada "song" in the distance from her home. Many cicadas were washed down on the ground dead. In the evening the cicadas could be heard "crackling" on the ground as they crawled over leaves to the foot of the beech tree which they ascended.

May 30: Mrs. Nesslinger reported fewer cicadas, climbing the trees, though it was a clear day, fairly cool.

Mr. Charles C. Stoddard and Mr. McMillen visited the old apple orchard behind St. Andrews Church in Richmond and found some holes but the cicadas appeared very sporadically.

June 1: Mrs. Nesslinger reported very few cicadas emerging, but many adults on the spruce hedge at the Harmony Park boundary of her home.

June 2: Mrs. Nesslinger reported very few cicadas emerging, only about a dozen on a large oak tree on her front lawn. Temperature 50°.

June 3, 4, 5: Mrs. Nesslinger reported cool days, damp, 50°. She saw very few cicadas emerging, only two or three at a time. There were many adults on the spruce hedge and in the front garden of her home.

June 6: Mrs. Nesslinger reported quantities of cicadas coming out that night; 100 at least on the large beech tree behind her home.

June 7: Mr. Coles reported many cicadas coming out in his garden at 37 Ellicott Place and starting a steady hum in his neighborhood. Loud humming was reported from Grymes Hill where cicadas were in great quantities.

From this date on, many cicadas were observed mating.

June 7-12: Mrs. Nesslinger reported quantities of cicadas coming out and heard a steady roar.

June 12: Mrs. George Creutzburg, 158 Douglas Road, Emerson Hill, heard the steady drone of cicadas.

Mrs. Nesslinger heard the cicada drone at 2:30 A.M.

June 13 and 14: Mrs. Nesslinger reported very few cicadas emerging, but a steady loud drone. Seemingly the brood had all emerged.

June 14: Mrs. J. H. Blair, 205 Safford Ave., Great Kills, reported quantities of cicadas in her garden where they are thick on small bushes.

June 15: Joseph Burke reported cicadas heard singing on Curtis Place, St. George, between 8:30 and 9:45 A.M., and while he was walking to the Museum he heard them on Vine St., and saw a robin on the ground with one in its beak; he heard them while crossing the lot between Belmont Terrace and St. Marks Place and saw a starling flying with one in its beak; he heard the cicadas outside the Museum from 10 to 11 A.M.

June 16: Mrs. Nesslinger reported many dead cicadas and many affected by fungus.

June 17: I observed many twigs affected by the slits in which the eggs had been laid.

June 22: Many twigs were already dried and hanging on trees.

July 1: Cicada "songs" diminished and

July 2: A very heavy storm and downpour of rain destroyed all signs of living insects and brought to an end the 1945 invasion.

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